

Nanofilm

Disclosure of Intangibles

Report dated September 2025

This is an analysis of Nanofilm Technologies International Limited (“Nanofilm”)’s Intangible Assets (“IA”) using the Intangibles Disclosure Framework (“IDF”).

The IDF outlines principles for businesses to disclose and communicate their IA in a systematic and comprehensive way. This will allow stakeholders to make more informed assessments of the business and its financial prospects through an understanding of its use of IAs to drive stakeholder value.

The disclosure principles in the IDF are anchored in four pillars: Strategy, Identification, Measurement, and Management (“SIMM”).

An Overview of Nanofilm

Nanofilm is a leading provider of nanotechnology solutions. The company leverages its proprietary technologies, core competencies in Research & Development (“R&D”), engineering, and production, to provide technology-based solutions. Guided by its vision to integrate nanotechnology in advanced materials and nanoproducts into our daily lives, the company is committed to be the key catalyst for new sustainable products for customers.

Financial Highlights	
Share Price @ 31 August 2025 S\$0.73	
Market Cap @ 31 August 2025 S\$476m	
FY2024 Revenue S\$204m (+15% YoY)	FY2024 PATMI S\$8m (+147% YoY)
FY2024 Dividend per Ordinary Share 0.66¢	

Global Footprint

Nanofilm operates across several key markets in Asia and Europe, with its global headquarters in Singapore.



Key Figures



Key IAs

- Customer contracts
- Customer relationships
- Patents
- Proprietary unpatented technologies
- Trademarks



Revenue by End Markets¹

Consumer	69%
Industrial	30%
New Energy	1%

¹ Consumer end markets include revenue contributions from 3Cs (computer, communication, and consumer electronic) and nanofabrication; Industrial end markets include revenue contributions from automotive, precision engineering, printing & imaging, general industries, and equipment sales; New energy end markets include revenue contribution from hydrogen energy.

Strategy

Diversified Footprint

Nanofilm's ability to deliver high-performance, precision-engineered surface solutions is intrinsically linked to our capacity to serve customers where they operate. Our broadening geographical footprint is a deliberate strategic enabler, allowing us to deepen relationships with existing customers who have global operations, while also capturing growth from new customers in high-potential markets.

In FY2024, we expanded our operational presence in key Asian original equipment manufacturers ("OEMs") manufacturing hubs, including South China, Vietnam, and India. These regions are not only aligned with the supply chain footprints of leading global technology brands but are also home to fast-growing OEM ecosystems increasingly seeking advanced surface solutions. Our proximity to these ecosystems enhances our ability to co-develop, customise and deliver solutions with faster turnaround.

This expansion is strongly underpinned by our longstanding relationships with global OEMs, enabling deep integration into their product development processes, often across multiple generations of their products. These partnerships give us early visibility into customers' roadmaps, enabling us to anticipate needs and align our expansion plans accordingly. Our domain expertise and application know-how allow us to engage customers not just as a vendor, but as a long-term innovation partner. It helps foster recurring engagement, as our technologies become embedded in customers' production ecosystems. By leveraging these strengths, our geographic expansion becomes more than an operational move, it is a strategic execution of customer-centric growth, ensuring Nanofilm remains an essential partner in the evolving global technology landscape.

Investing in Next Generation Technology

Innovation remains central to Nanofilm's long term value creation. We are actively investing in next-generation technologies and platforms to strengthen our competitive edge and unlock new market opportunities. A major milestone was the launch of the NTI-NTU Corporate Laboratory in FY2023, which brings together resources and expertise to drive deep-tech innovation and accelerate commercialisation.

Our technology roadmap is guided by key market trends, including Industry 4.0, demand for high performance and scalable optical components, and the accelerating shift toward alternative energy sources. Our response to these trends reflects not only strategic foresight but also our deep reservoir of **technology-related intangibles**, including proprietary technologies such as our differentiated vacuum coating and nanotechnology capabilities, and a robust portfolio of patents.

Looking ahead, our strategic focus over the next five years includes:

1. **Vacuum coating system portfolio:** Expansion of our vacuum coating system portfolio, with an emphasis on high-throughput, inline systems optimised for industrial efficiency and process uniformity.
2. **Advanced materials:** Developing new vacuum coating solutions in key consumer and industrial segments.

3. **Replications-based nano-optical lens:** Developing replications-based products for high precision nano-optical lens used in next-generation optical sensing and imaging applications.
4. **Electrolysers:** Expanding electrolyser coatings and systems to support the hydrogen economy.
5. **Fuel cells:** Developing fuel cell systems for maritime and portable stationary applications, aligned with global sustainability goals.

Execution progress to date:

1. **Vacuum coating system portfolio:** Systematically collected and analysed data from our network of equipment, enabling the development of next-generation in-line mass production systems. This advanced solution integrates real-time insights and operational intelligence to enhance manufacturing efficiency and scalability. The first deployment of this new system has been implemented within our Sydrogen business unit (“BU”), marking a significant milestone in our technology-driven transformation journey.
2. **Advanced materials:** Development projects initiated with potential customers in Asia and Europe.
3. **Replications-based nano-optical lens:** Multiple development projects initiated with potential customers in health sensing and automotive.
4. **Electrolysers:** Co-development with customers and validation of system capabilities is underway. This will be followed by the transition to commercial deployment.
5. **Maritime fuel cells:** Received Basic Design Assessment (“BDA”) and Approval-in-Principle (“AiP”) Certificates for the fuel cell power systems from Bureau Veritas Group, marking a key certification milestone.

Strategic Acquisitions

To accelerate growth, Nanofilm actively pursues strategic acquisitions and partnerships that deepen our technological expertise, broaden market access, and enhance value delivery to stakeholders.

In FY2024 and FY2025, we expanded into Europe through the acquisitions of AxynTeC and EuropCoating Group. These acquisitions brought complimentary technical capabilities and established customer relationships, broadening our geographical footprint and accelerating our entry into the European advanced materials industry.

By integrating these **technology-related intangibles** into our platform, we gain access to differentiated know-how, proprietary processes, and localised technical talent, strengthening our ability to deliver precision-engineered solutions across markets.

At the same time, these acquisitions enhance our **customer-related intangibles** by accelerating trust-building and shortening commercial ramp-up time. Inheriting strong customer networks and embedded supplier positions allows us to plug directly into existing value chains, improving our cross-sell potential and increasing the stickiness of our offering. These relationships, when combined with our technology stack, enable faster co-development cycles, better responsiveness to local needs, and more tailored innovations that align with regional market dynamics.

Identification

Nanofilm's long term value creation is underpinned by a strong foundation of IA. In particular, our customer-related and technology-related intangibles form critical pillars that drive sustainable competitive advantage, support innovation-led growth and strengthen stakeholder trust.

Key intangibles

1. Customer related intangibles

Nanofilm maintains an extensive network of customers that reflect our trusted position in the value chain.

- Over 200 active customer contracts spanning equipment, coating solutions and finished products. Most contracts range from 1 to 3 years, with key OEM agreements extending beyond 5 years.
- More than 45 customers with relationships exceeding 10 years.

As a recognised coating service provider for global customers, our long-standing relationships create a recurring revenue model. At the same time, our expansionary strategy is guided by OEMs' presence as they diversify their manufacturing footprint.

2. Technology related intangibles

Our technological edge is safeguarded by a comprehensive portfolio of patents, proprietary technologies, registered equipment designs and associated trademarks.

- Nanofilm owns 70 active patents, more than 80 utility models and over 30 pending applications covering products and processes related to vacuum coating technologies, nanotechnology and hydrogen energy. Notable features of the portfolio include the proprietary filtered cathodic vacuum arc ("FCVA") technology and the various functional and decorative coatings incorporating tetrahedral amorphous carbon ("ta-C").
- Patents are registered across multiple jurisdictions, including China, Singapore, Japan, Europe and United States.
- Remaining patent life ranges from less than 1 year to 20 years.
- In addition, we have 2 active registered designs till FY39 and one pending application for key equipment in China.
- Beyond formal registrations, Nanofilm's competitive advantage is also anchored by proprietary unpatented technologies, including automation and digital management systems in-house to improve the mass production capability in the manufacturing plants.

These assets anchor our innovation roadmap, support the protection of our IP, and position us to capture future opportunities in our end markets.

Measurement

Customer related intangibles

1. Range of customer relationship tenure by end markets

This key performance indicator (“KPI”) tracks the length and distribution of customer relationships across different end markets, providing insights into the depth and durability of our customer engagements. Longer tenures typically indicate strong trust, high satisfaction and sustained value delivery, which are critical for recurring revenue and long-term growth. Our diversified footprint strategy ensures that these long-standing relationships span multiple geographics and end markets, reducing reliance on any single market. Meanwhile, strategic acquisitions have allowed us to inherit and integrate established customer relationships in new geographic regions, accelerating market entry while maintaining continuity for acquired customers. Through analysing tenure, we can identify end markets where our relationships are most established and where they are under development. This supports our strategic focus on customer stickiness, supporting cross-selling, upselling and enhancing resilience through diversified, long-lasting partnerships.

Consumers: 8-10 years
Industrials: 10-15 years
New Energy: 1-3 years

2. Proportion of co-development projects with existing customers by end markets

This KPI measures the count of active joint R&D and product development engagements with existing customers across different end markets, reflecting the depth of collaboration and strategic partnership we maintain. The volume of these projects signals strong customer loyalty and demonstrates our commitment to collaborative innovation. Expanding co-development initiatives across diverse end markets strengthens customer stickiness, creates high barriers to entry for competitors and support our growth and diversification strategies. It also enhances growth visibility by revealing the pipeline likely to convert to production. Our diversified footprint enables co-development to occur close to our customers’ operations, fostering faster iteration, strong integration into customer value chains and deeper market insights. Strategic acquisitions have also expanded our technical capabilities and customer base, enabling more high-value co-creation opportunities in new geographies.

Consumers: 70-80% of total Consumers’ projects
Industrials: 50-60% of total Industrials’ projects
New Energy: 30% of total New Energy’s projects

Technology related intangibles

1. Number of new solutions/products developed by end markets

This KPI tracks new solutions/products launched in each end market between FY23 to FY24, reflecting our commitment to innovation and investment in next generation technologies. It reflects the pace at which Nanofilm is converting R&D and co-development projects into market-ready solutions. It provides insights into which end markets are experiencing the most rapid innovation, helping investors identify near-term growth drivers. It also offers a forward-looking indicator of medium-term growth potential, since each new solutions represents a new or expanded revenue stream.

Consumers:	14 colour solutions 1 functional solution 1 optical sensor component
Industrials:	2 functional solutions
New Energy:	1 functional solution 1 hydrogen fuel cell system

2. Useful life range of solutions by end markets

This KPI measures the expected operational lifespan of our solutions across different end markets, reflecting product durability and quality. This frames the replacement/refresh cycle of innovations, allowing stakeholders to understand product lifecycle and revenue sustainability. From a strategic perspective, it supports investment in next-generation technologies and product innovation by identifying where enhancements can extend solution useful life, strengthening competitive positioning and long-term growth potential.

Consumers:	1-2 years (colour solution) 2-5 years (functional solution / optical sensor solution)
Industrials:	2-20 years
New Energy:	2-3 years

3. R&D expense as % of revenue

This KPI indicates the proportion of revenue reinvested into R&D, signalling our commitment to future growth. Targeted R&D spending accelerates breakthrough solutions, strengthens competitive advantage and builds future growth pipelines, while also measuring innovation efficiency.

FY24: 7% of revenue

4. Number of registered trademarks and pending trademarks applications associated with solutions/products

This KPI reflects the company's active management of its solutions/products, ensuring that technological advances translate into market-facing assets that are well protected. Trademarks also provide formal recognition of Nanofilm's innovations in the marketplace, ensuring that its differentiated technologies and offerings are distinctly identifiable to customers and partners.

FY24: 57 trademark registrations; 20 pending applications

Management

Leadership and Oversight

At Nanofilm, the effective management of IAs is embedded into our enterprise risk and opportunity management framework. These processes are guided by strong governance across technical and commercial leadership:

- **Chief Technology Officer (“CTO”) Council**, comprising of the Executive Chairman and the CTOs of the various technological domains, has the overarching responsibility to provide the appropriate leadership of Nanofilm’s research and technical development work.
- **Executive Leadership** evaluates and approves strategic opportunities and risks.
- **Intellectual Property (“IP”) Management Office**, comprising of employees that oversee IP generation and protection, embedding patent analysis into R&D lifecycle.
- **Corporate Legal and Risk Teams** manage contractual, regulatory and commercial risks.

Risk Identification and Management *(refer to appendix A for more details)*

Nanofilm employs a structured process to identify, assess and mitigate risks related to IAs:

- **Identification:** Triggered by new R&D projects, customer engagements or operational changes
- **Assessment:** Risks are scored based on impact and likelihood (e.g. R&D infringement, loss of know-how, customer dependency)
- **Decision:** Risk treatment strategies are implemented to mitigate, transfer, accept or control
- **Monitoring:** Risk registers are updated quarterly with annual reviews of full risk cycles

Opportunities Identification and Commercialisation *(refer to appendix B for more details)*

Nanofilm proactively identifies and develops intangible-related growth opportunities:

- **Identification:** The CTO council and BU heads generate new ideas
- **Assessment:** Opportunities are evaluated on feasibility, return on investment (“ROI”) potential, strategic fit, IP defensibility and lifetime value
- **Decision:** High-potential initiatives receive approval for pilot programs
- **Development:** Research and Engineering Development (“RED”) teams develop technology aligned with BUs’ strategies and surface new commercial ideas
- **Monitoring:** Performance of the innovation pipeline is tracked quarterly, with annual reviews and strategic refreshes

Appendix A: Intangibles-Related Risk Identification and Management

Risk identification process:

Process	What Happens
Identify	- Human Resource (“HR”) reports staff risk; Information technology (“IT”) reports info-security risk; R&D reports technology/IP risk via IA searches at project start & milestones - Departments push regular updates into the Enterprise Risk Management (“ERM”) process
Collate	- Risk Management Team (“RMT”) logs all department inputs into the Enterprise Risk Register - Legal reviews contracts/non-disclosure agreements (“NDAs”) for IP-leakage risk - Risk & Sustainability team flags regulatory shifts
Assess & Prioritise	Annual risk-matrix scoring (impact x probability) to size magnitude, scope and duration
Govern & Decide	- CSO’s quarterly risk committee reviews mitigation process - Board reviews and signs off annual risk assessment
Monitor & Reassess	- Quarterly dashboard updates on mitigation status - Annual full re-assessment of the risk register

Process	Who’s Involved	Thresholds & Triggers	Cadence	Output
Identify	- Risk Management Team - HR, IT and R&D department heads	Any department flag -> Auto-enter risk register	Regular updates	Risk logs by category (people/technology/IP)
Collate	- Risk Management Team - Legal Team - Sustainability Team	Missing inputs -> Escalate to department head	Continuous logging and scanning	- Populated enterprise risk register entries - Regulatory-risk red flags
Assess & Prioritise		High risk matrix scoring -> Escalate to Chief Strategy	Annual scoring cycle	Prioritised risk scorecards (with magnitude/

		Officer ("CSO")		scope/ duration)
Govern & Decide	- Board of Directors (Executive Chairman/ CEO, Independent Directors) - CTO Council - CSO	High rated risks without defined mitigation plans -> Escalate to CSO	- Quarterly CSO risk-committee review - Annual risk assessment signs off	Approved mitigation plans (with owners & timeline)
Monitor & Reassess	- Risk Management Team (Quarterly) - All stakeholders (Annual)	- Quarterly updates - Annual full cycle review	- Quarterly updates - Annual full cycle review	- Updated risk register - Mitigation status dashboard

Risk management process:

Process	What Happens
Strategies & Tools	- IA registration - Run employee retention programs (employee stock ownership plan ("ESOP"), grants) - Deploy cybersecurity systems - Use Customer Relationship Management System to manage customer related intangibles - CTO Council oversight on all technology related intangibles
Treatment Decisions	Apply risk management framework to choose Mitigate, Transfer, Accept or Control
Prioritisation of risks to address	Rank risks via Impact x Probability matrix
Materiality review	Management and Board review top risks to confirm materiality
Monitor & Review	- Track response outcomes and new incidents - Feed lessons back into ERM

Process	Who's Involved	Cadence	Output
Strategies & Tools	- CTO Council - IP Management Office	Ongoing, ad hoc as issues arise	- Updated IP register - Retention program statistics

	• HR, IT, Sales & Marketing		• Security audit reports • Customer relationship management (“CRM”) asset logs
Treatment Decisions	• Chief Financial Officer (“CFO”) • CSO • Risk Management Team • Legal Team	• Per risk assessment	• Risk treatment plans • Control implementation schedules
Prioritisation of risks to address	• Risk Management Team • R&D Team • Legal Team	• Annual (or ad hoc for new high risks)	• Prioritised list of risks
Materiality review	• Board of Directors • CSO	• Annual	• Material risk register • Board sign-off
Monitor & Review	• Risk Management Team • All Department Heads	• Quarterly updates; Annual full-cycle review	• Quarterly performance reports • Updated risk register • Risk resolution log

Appendix B: Intangibles-Related Opportunities Identification and Commercialisation

Opportunities identification process:

Process	What happens
Identify	• CTO council & BU Heads brainstorm new commercialisation ideas
Collate	• IP Management Office logs ideas into the opportunity pipeline • CTO Council & IP Office perform preliminary IP-feasibility checks
Assess & Prioritise	• Each case is scored based on market potential, strategic fit & ROI • Legal & sustainability quantify regulatory upside/downside
Govern & Decide	• CTO Council and Budget Committee review and approve new R&D projects and budgets
Monitor & Reassess	• Quarterly pipeline performance reviews • Annual portfolio review and strategic refresh

Process	Who's involved	Qualification criteria	Cadence	Output
Identify	• CTO Council • BU Heads	• Feasibility checkbox passed -> Enter into opportunity pipeline	• Ongoing ideation, Monthly idea-workshops	• List of opportunities and initial concept briefs
Collate	• CTO Council • IP Management Office • BU Heads • Legal Team • Risk Management Team • Sustainability Team	• IP freedom-to-operate • Minimum feasibility score > xx%	• Continuous logging; Quarterly validation sessions	• Validated opportunity pipeline entries with feasibility notes
Assess & Prioritise	• CTO Council • BU Heads • Finance • Legal Team • Risk Management Team	• Market potential score • Strategic fit score • ROI targets (Internal rate	• Semi-annual scoring; Ad hoc updates	• Ranked opportunity scorecards (with ROI & readiness scores)

	• Sustainability Team	of return (“IRR”))		
Govern & Decide	• CTO Council • CSO • Finance	• Strategic alignment passed • Budgeted request less than approved cap • Full-time equivalents (“FTEs”) & resource availability confirmed	• Quarterly go/no-go decision meetings • Annual budgeting	• Approved pilot charters & budget allocations
Monitor & Reassess	• CTO Council • CSO • All stakeholders	• Pilot ROI less than threshold -> Review/kill pilot	• Quarterly reviews • Annual strategic refresh	• Updated pipeline • Pilot progress reports • Action item lists

Opportunities commercialisation process:

Process	What happens
Governance Forum	• CTO council meets to set technology roadmap • Identify synergies across domains
Technology Showcase	• Hold technology forums every year • Advanced Technology Research Centre and BU technical teams present new products and processes • CTOs & business unit heads hold roundtables
Business Unit R&D Teams	• At each BU level, RED teams develop technology aligned with BUs’ strategies and surface new commercial ideas
Customer Insights Loop	• Analyse CRM data and direct customer feedback to uncover adjacent application and cross-sell opportunities

Process	Who’s involved	Key tools & inputs	Cadence	Output
Governance Forum	• CTO Council • BU Heads	• Council charter • Meeting agendas	• Quarterly	• Updated technology roadmap

		• Technology roadmap document • Synergy matrices		• Synergy project list • Action-item log
Technology Showcase	• BUs' technical teams	• Forum program	• Annual	• Innovation pipeline report • Shortlist of high-potential technologies • Forum summary
Business Unit R&D Teams	• BU heads • RED teams	• RED project charters • BU strategic plans • R&D roadmaps • Development status reports	• Ongoing/as needed	• New commercial proposals • R&D progress reports
Customer Insights Loop	• Sales and marketing teams	• CRM platform • Feedback reports	• Continuous	• Customer insight reports