

ASTRI

APPLIED RESEARCH IP CASE STUDY

How Hong Kong's largest public R&D institute builds and licenses its 1,500-patent portfolio

INTRODUCTION

The Hong Kong Applied Science and Technology Research Institute (ASTRI) was founded in 2000 by the Government of the Hong Kong Special Administrative Region with the mission of enhancing Hong Kong's competitiveness in technology-based industries through applied research. It is Hong Kong's largest government-funded research and development centre and, in its own words, a super connector driving innovation across Hong Kong, the Greater Bay Area, and the global innovation ecosystem. ASTRI brings high-impact research from lab to market, advancing interdisciplinary, market-driven R&D that delivers practical innovations for industry and meaningful benefits for society. Its AI-powered, cross-disciplinary work spans Smart City, FinTech, Digital Health and Life Sciences, New Industrialisation and Intelligent Manufacturing, Application-Specific Integrated Circuits and Advanced Electronics, New Energy and Energy Storage, and Green and ESG Technologies — a portfolio strengthened by its merger with the Nano and Advanced Materials Institute.

BACKGROUND

For a publicly funded institute, patents are not trophies — they are the product. ASTRI states the point plainly: patents represent the originality and value of its innovation, and serve as the foundation for technology transfers to industry. Legal IP rights also protect the taxpayer's investment in the research programme.

The scale is substantial. ASTRI was granted its first US patent in April 2005 and its first Mainland China patent in December 2008. Cumulative grants passed 500 by March 2015 and 1,100 by 2024; following the NAMI merger the combined global portfolio exceeds 1,500 patents, with more than 2,200 technologies transferred to industry. Filing runs at a steady cadence — roughly 60 to 70 applications a year for more than a decade.

That steady cadence is exactly where the difficulty lies. A single institute is filing across semiconductors and ASIC design, nanomaterials, blockchain and cybersecurity, AI and big data, photonics and sensors, energy storage, and digital health — in the US, Mainland China, and elsewhere. Each domain demands different drafting instincts and a different prior-art posture. Software and fintech work has to clear Section 101 in the United States; materials work has to survive enablement and written-description scrutiny; and everything has to be on file before conference papers, demonstrations, and industry briefings put it into the public domain. Doing that at volume, on public money, with a defensible cost per filing, is the problem PatentPC was engaged to solve.

“Our patents are the bridge between the laboratory and the market. If a claim is drafted too narrowly, or filed too late, the technology transfer that justifies the whole programme simply does not happen.”

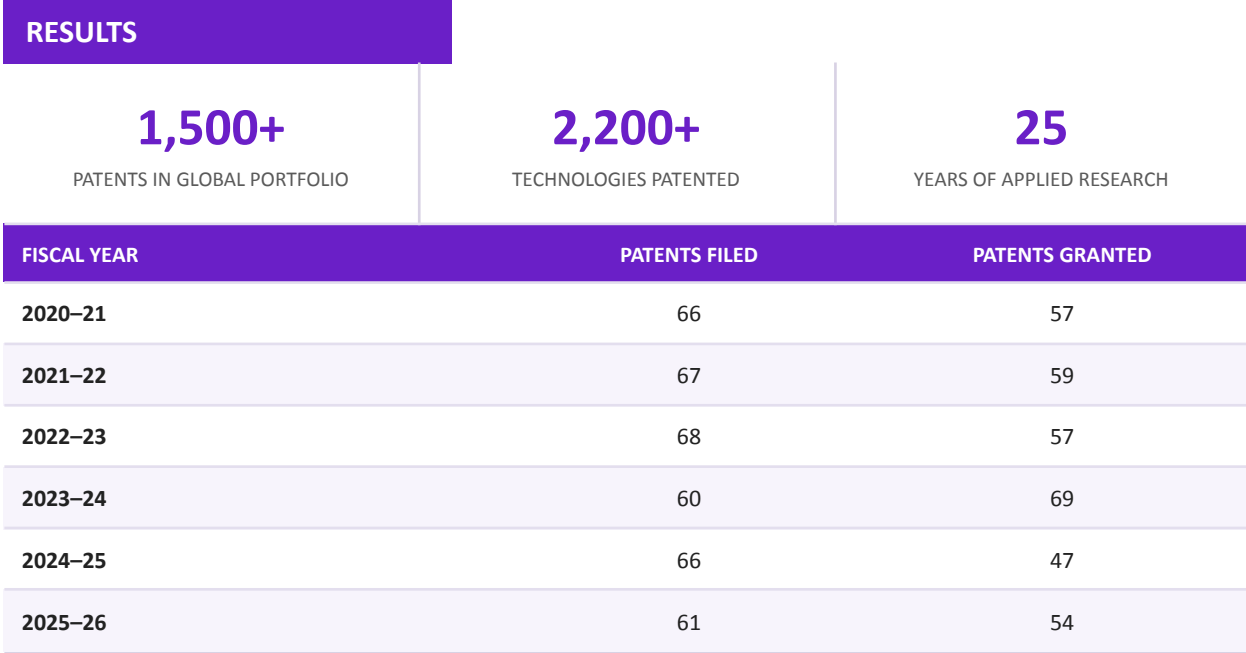
FRED PH LEE, ASTRI

SOLUTION

What first set PatentPC apart was the breadth of technology it could take on and the degree to which the PatentPC techstack/workflow itself is automated. Few outside firms can move between an ASIC architecture disclosure, a nanomaterial formulation, a federated-learning fintech method, and a biosensor without changing teams and restarting the learning curve. ASTRI needed one counsel relationship that could absorb the whole spread at a consistent standard. PatentPC addresses these requirements with:

1. **Structured, High-Quality Drafting Built for Academic Complexity** - PatentPC excels at converting dense research—AI models, biomedical systems, materials science, robotics, semiconductors—into clear, enforceable, commercially relevant patents. Universities value this because faculty disclosures often span multiple disciplines and require precise claim architecture.
2. **Rapid Turnaround That Matches Grant, Publication, and Conference Deadlines** - Tech-transfer offices operate under pressure from upcoming publications, thesis defenses, and conference presentations. PatentPC’s accelerated drafting pipeline ensures filings are completed before public disclosure, protecting priority without slowing research momentum.
3. **Predictable Fixed-Fee Structures That Simplify Budgeting** - Universities hate unpredictable invoices. PatentPC’s fixed-fee model allows TTOs to plan annual budgets, allocate resources across departments, and avoid the financial surprises common with traditional firms.
4. **Clear, Timely Communication With Faculty Inventors** - Researchers appreciate PatentPC’s engineering-friendly explanations, structured prompts, and transparent prosecution updates. This reduces friction, increases disclosure quality, and keeps inventors engaged throughout the process.
5. **Strong Continuation Strategy for Long-Horizon Research Programs** - University innovations evolve over years. PatentPC builds continuation families that grow with the research, ensuring long-term protection and maximizing licensing value.
6. **System-Level Claiming That Protects Entire Research Platforms** - Instead of narrow component claims, PatentPC drafts patents that protect algorithms, workflows, instrumentation, data pipelines, and system interactions—ideal for university labs developing platforms rather than single products.
7. **Compliance With University Accounting, Capitalization, and Audit Requirements** - PatentPC provides clean documentation, predictable billing cycles, and structured reporting that integrates smoothly with university accounting systems, making audits and financial reviews painless.
8. **Experience Working With Multi-Inventor, Multi-Department Projects** - Universities often have disclosures involving 5–20 inventors across departments. PatentPC manages these complex collaborations with clear communication channels and coordinated review cycles.

9. **Global Filing Expertise for International Research Collaborations** Universities frequently partner with labs abroad. PatentPC handles PCT filings, foreign national phases, and international strategy with precision, ensuring global protection for cross-border research.
10. **Portfolio Development Aligned With Licensing and Industry Partnerships** - PatentPC drafts claims with commercialization in mind—industry sponsors, corporate partners, startup spinouts, and future licensing opportunities—making the portfolio more attractive to investors and corporate collaborators.



ASTRI has used its patented technologies as the currency of collaboration — cross-institutional IP agreements with CityU, HKU, and HKUST, joint research clusters that leverage each party’s patent estate, and licences that have generated tens of millions of Hong Kong dollars in commercialisation income. Patents are also what make ASTRI a credible partner to Fortune 500 companies and to start-ups alike, because both need to know who owns what before they build on it.

ASTRI saved in two directions at once. First, by working with experienced attorneys backed by a technology stack, it avoided paying outside counsel to learn each new research domain, and received applications with more technical depth on a far shorter cycle. Second, by making the change, ASTRI now pays less while receiving more accurate and more efficient patent services — with claim drafting and strategic advice still owned by its patent attorneys.

“PatentPC brought structure, speed, and strategic clarity to the patents they worked on. Their ability to turn deep-tech research into commercially meaningful, defensible patents has elevated ASTRI’s impact and strengthened our position in industry partnerships.” FRED PH LEE, ASTRI

Research institutes need portfolios, not paperwork.

PatentPC pairs experienced patent attorneys with practice automation so universities, public research centres, and R&D institutes can protect discoveries across every technical domain — at a cost per filing that survives budget review. Talk to us about a portfolio and technology-transfer strategy.

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