

Mentorship for Intangible Asset Transformation (MINT)



Flexxon: Strengthening Cybersecurity through Innovation and IP Management with MINT

Introduction

Today, cybersecurity threats are ubiquitous, ever evolving, and can stealthily infiltrate a company's internal network and computer systems. Ransomware, in particular, can be extremely damaging to businesses. A [study](#) by IBM in 2024 put the global average cost of a single data breach at USD 4.88 million.

Flexxon, a hardware cybersecurity and flash storage manufacture company founded in 2007, is constantly developing innovative solutions to strengthen the cybersecurity of businesses. Growing from being a NAND flash storage solutions manufacturer for enterprises, Flexxon now develops machine learning cybersecurity algorithms directly built into storage hardware to protect against data theft or ransomware. Its approach is innovative and distinct from existing app/software-based cybersecurity solutions such as antivirus or firewall software.

Key Innovation

Flexxon's key innovation is its suite of hardware-based cybersecurity solutions - the X-PHY. Its maiden product, the X-PHY Cybersecure Solid State Drive (SSD), was launched in 2021 as the world's first solid-state drive embedded with AI-powered data security. Its proprietary algorithm built into the hardware serves as the 'last line of defence' for stored data by locking the data when it detects suspicious 'read-write' patterns in the storage device. This makes X-PHY uniquely suited for effectively thwarting ransomware attacks. Since then, Flexxon has introduced a range of other solutions to its X-PHY line up. This includes the X-PHY series of laptops, X-PHY Vault and X-PHY Server Defender.



IP Journey

As a company “laser-focused on innovation”, Flexxon recognizes the importance of safeguarding their investments with IP. In its early years, Flexxon was forced to engage in a costly trademark battle against a much larger company, which instilled in its founders the importance of protecting its IP. Since then, Flexxon has consistently engaged with IP programmes and communities to help formulate a forward-looking IP strategy. For its outstanding use of IP rights to achieve its business goals,

Flexxon won the 2023 World Intellectual Property Organization (WIPO) Global Award, 2022 WIPO IP Enterprise Medal, and the 2022 Intellectual Property Office of Singapore (IPOS) IP for Innovation Award.

IP Management Challenges

Building on its well-established IP portfolio, Flexxon joined MINT to devise an IP strategy that delivers long-term and sustainable growth for its X-PHY line of products. Its strong IP portfolio had attracted the interest of other partners in licensing its X-PHY technology. Flexxon therefore needed to develop more sophisticated licensing arrangements to better enable the monetisation of its innovation. Secondly, Flexxon joined MINT to further strengthen the protection of the X-PHY trademark and proprietary technology in many jurisdictions amidst its rapid global expansion.

Outcomes from MINT

By understanding Flexxon’s business strategy and taking an inventory of its IA/IP, the MINT mentor helped Flexxon to strengthen its IP strategy to better leverage trade secrets and patents to protect its proprietary cybersecurity algorithms. For example, the mentor outlined the creation of an internal trade secret register to help Flexxon’s staff better manage its proprietary algorithm. Flexxon also began posting patent numbers on its products and copyright notices on its marketing material to deter potential infringement.

By comprehensively reviewing the jurisdictions that X-PHY registered its IP, the mentor helped ensure that Flexxon’s IP was protected in the most cost-efficient manner in the major markets that X-PHY was rapidly expanding into.

To help Flexxon better navigate the licensing process, the MINT mentor also provided Flexxon’s leadership with an overview of key considerations in licensing terms. This helped Flexxon to be more informed when engaging licensing professionals in negotiating its licensing deals.



Looking Forward

Following MINT, Flexxon will continue fuelling its rapid growth with its innovative IA/IP in the X-PHY series of products, which has just transitioned into mass production phase. At present, its innovative X-PHY suite of solutions already address a multitude of use cases, including endpoints, cryptocurrency security, cloud storage, secure servers, and data centres.

As Flexxon expands, it will protect its core technologies through a combination of patents and trade secrets, while growing its brand recognition through the trademark X-PHY. Flexxon also plans to continue facilitating licensing opportunities to boost revenue and extend the company’s market reach without large capital expenditures on manufacturing and marketing. Finally, Flexxon hopes to attract

more strategic investors and financing by showcasing the attractive valuation of their legally protected inventions.

“The MINT programme provided Flexxon with the opportunity to work with world-class IP experts to develop in-depth insights into strategies for protecting our IP rights on a global scale. It has strengthened the management and commercialisation of our IP portfolio.”

May Chng, COO, Flexxon

This case study was developed through the [IP Management Clinic Programme](#), specifically the Singapore edition known as [Mentorship for Intangible Assets Transformation \(MINT\)](#). MINT is a collaborative initiative between the World Intellectual Property Organization (WIPO) and the Intellectual Property Office of Singapore (IPOS), aimed at promoting the strategic management of IP assets among businesses in Singapore.