ICC United Kingdom

Patents as engines of growth

Unlocking innovation for businesses of all sizes

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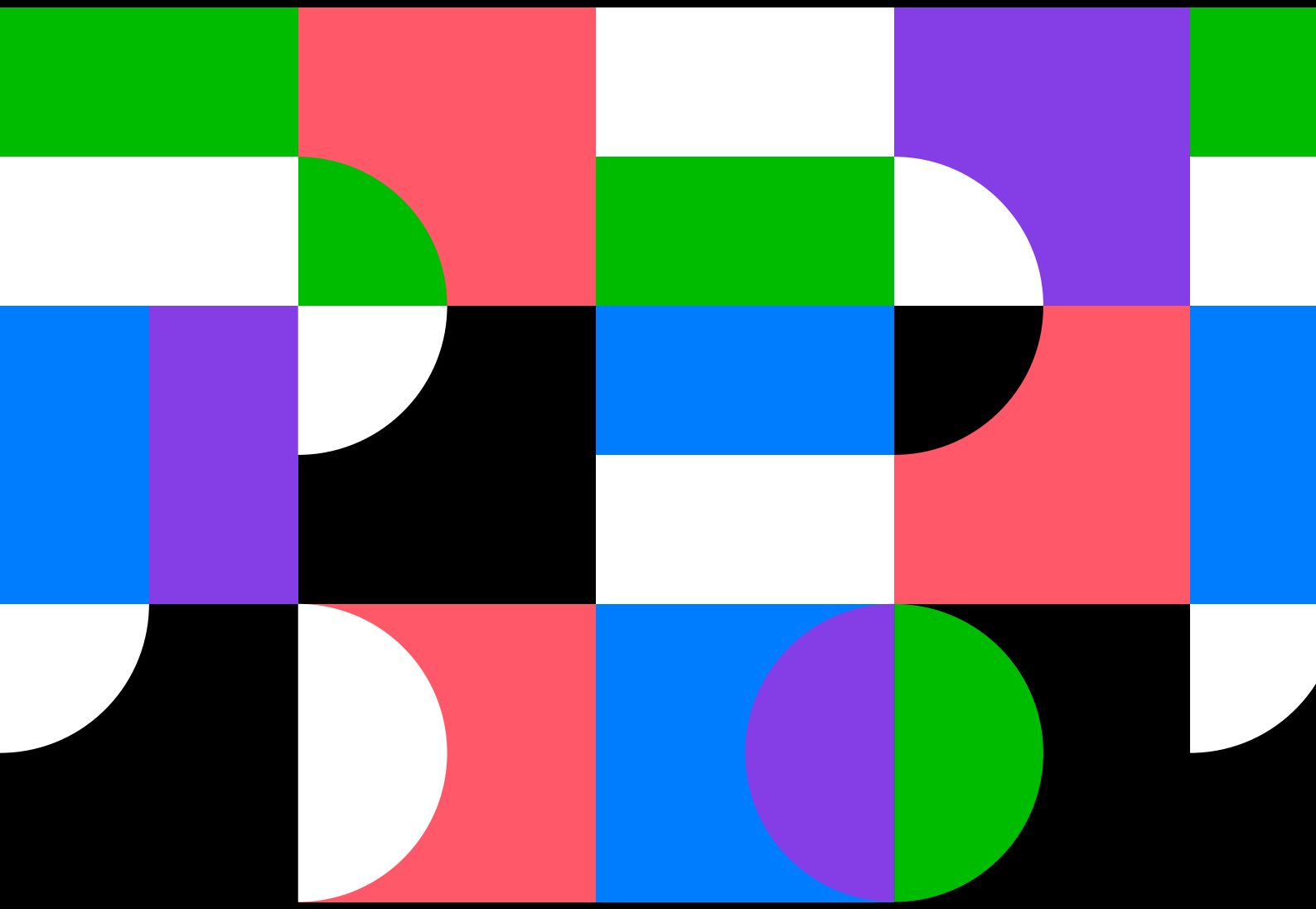

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Patents fuel growth for businesses of all sizes

Patents provide an engine for business success — and not only for big business. They unlock opportunities for long-term growth for innovative SMEs, start-ups and scale-ups.

This is because patents are valuable **strategic assets** that:

- Attract investment and partnerships
- Drive revenue streams through licensing/ sale and commercialisation
- Provide a competitive advantage in global markets by protecting key technology
- Provide leverage in helping to keep business or win new business in bids
- Provide a degree of freedom to operate in a competitive market and mitigate against legal dispute risk/facilitate settlement
- Provide valuable business technical intelligence, on publication
- Enable collaboration with confidence

Businesses of all sizes can leverage the value of patents to create a virtuous circle of investment and growth. Patents prevent others from exploiting a protected invention, enabling companies to generate a return on investment which can be poured into new research and development. This can lead to new innovations which can be patented and commercialised.

This dynamic is illustrated in the case study on page 6, featuring Farmer Lifeline Technologies, a Kenyan agri-tech innovator. It shows how a start-up can use patents as strategic tools to drive both impact and growth.

Patent-owning businesses are more successful

There is a wealth of evidence from Europe that companies with patents are more successful than those without:

- According to research by the European Patent Office, **companies that own patents have 36% higher revenue** per employee and pay 53% higher wages than firms that do not[1]
- They also enjoy up to **10 times higher likelihood of access to early-stage growth finance**[2]
- Evidence from the UK shows that researchers who register patents and other intellectual property (IP) rights frequently go on to **commercialise their IP through spinouts, licensing deals, and private sector collaboration.**[3]

Strong and visible patents provide a valuable deterrent effect to competitors which can provide a competitive advantage. **This is a key reason why businesses with patents are viewed more favourably by investors than those without.**

The Kenyan case study on page 6 underlines this dynamic: Farmer Lifeline's visible patent status acted as both a deterrent to imitators and a signal to investors about the company's long-term prospects.

Attracting investment and scaling up

For start-ups seeking funding from venture capitalists (VCs) or government grants, patents are a key asset because:

- Patents increase the company's valuation, making it more attractive to investors
- They can be used as **collateral for loans** or **leverage in negotiations** with partners
- Investors prefer start-ups with strong **IP portfolios** as it reduces risks associated with market competition.

As the Kenyan case shows, Farmer Lifeline Technologies successfully reassured investors and partners by demonstrating that its technology was legally protected — a decisive factor in its ability to expand operations and pursue global licensing.

Creating revenue streams through licensing

For start-ups, licensing patents can help in scaling up without high capital expenditure.

Options available include:

- Out-licensing to larger corporations that have manufacturing capabilities
- Cross-licensing with other innovators in the same sector to create win-win collaborations
- Patent pooling for open innovation while still maintaining revenue streams.

Farmer Lifeline is pursuing exactly this path, seeking to licence its patented innovation worldwide in order to maximise impact on food security while generating sustainable revenue.

Patents drive the transition from manufacturing to innovation economies

Modern economies, such as Brazil, Botswana, Chile, India, Kazakhstan, Mexico, Senegal, South Africa and South Korea have moved from manufacturing-based models to **innovation-driven economies dominated by intangible assets such as patent portfolios**.

- **Intangible investment surpassed tangible assets** in the early 2000s[4]
- By 2020, **90% of S&P 500 stock market value was intangible**, up from 17% in 1975[5]
- **Patents drive this shift**, enabling firms to capture returns on innovation and create technology markets[6]
- **Global R&D exceeds USD 2.5 trillion annually**, fuelling patent filings and productivity growth[7]
- **Knowledge-based services employ 70%+ of OECD workers**, while manufacturing is below 15% (World Bank, 2022).[8]
- Leading modern companies thrive on IP, ecosystems, and data — not factories.

Strong and balanced IP protection is essential to drive innovation-led growth and enable economies to converge with innovation economies of the Global North. A strong and balanced IP system is needed, without broad patent waivers or compulsory licensing, to provide R&D incentives, enable technology transfer and foster local innovation ecosystems. All these factors ultimately lead to job creation and income growth for millions.

As the Farmer Lifeline Technologies case illustrates, strong patent protection can anchor innovation ecosystems in emerging economies, enabling local solutions to thrive globally rather than being displaced by foreign competitors.

CASE STUDY:

Farmer Lifeline Technologies

Kenya

FARMER LIFELINE TECHNOLOGIES

Innovation, intellectual property, and the fight against crop loss

We are looking at a business that will outlive us as founders. The IP provides a foundation that the team that will come after us can build upon.

Esther Kimani

Summary

Farmer Lifeline Technologies, a Kenyan agri-tech startup founded by award-winning innovator **Esther Kimani**, is transforming the way smallholder farmers detect and combat crop pests and diseases to increase food security in the Global South.

With a patented, solar-powered AI farm surveillance system, the company provides affordable, real-time detection at just **$3 per month**. With international patent protection applied for, Esther is aiming to licence her technology worldwide and address global food poverty.

The impact of Farmer Lifeline Technologies' innovation and the importance of IP protection to its success were recognised with a World Intellectual Property Organization (WIPO) Global Award last year. WIPO Director General Daren Tang highlighted Farmer Lifeline when he spoke at the inaugural Kenya Startup Festival, in Nairobi, in June 2025, citing Esther as an illustration of why innovation and IP are no longer the preserve of wealthy nations or tech giants.

Esther's story demonstrates the central role that IP can play in protecting innovation, building investor confidence and scaling solutions to the world's biggest problems.

Background

Esther Kimani grew up in **Nyandarua, Kenya**, in a farming family that, like many others, faced devastating crop losses each season. "*Sadly, I got to see the devastating effects of pests and diseases destroying at least a third of our produce every farming season… By the time we were coming in with interventions, it was either too late, too much had already been destroyed, and it would also affect our livelihoods.*"

Despite limited resources, Esther excelled academically and became the only girl from her village to attend university. She studied Mathematics and Computer Science, where she encountered machine learning and data science — tools that later became the foundation of her invention.

During her studies, she asked a fundamental question: "*Why don't we have a technology that is on the farm 24/7 and affordable for a smallholder farmer?*"

The innovation

In 2019, immediately after graduating, Esther conceived Farmer Lifeline Technologies. By 2020, she had registered the company and launched its first product: an **AI-enabled, solar-powered camera system** installed directly on farms.

The device continuously monitors crops, capturing images every few seconds, and then uses machine learning to detect the presence of pests or diseases. When an issue is found, the system automatically sends a text message to the farmer with a diagnosis and specific, locally available solutions.

Esther explains: "*I thought, why haven't I seen a camera on a farm giving 24/7 surveillance like in any other place? If you have our device on your farm, it will be scanning for any pest or disease anytime, and if there is an infection, you'll receive a message showing you, for example, 'Hey, your maize has been affected by fall armyworm, apply XYZ as a solution.'*"

The solution is not only effective but also **affordable and accessible**, particularly compared to drones charging $100 per hour or agronomists who take two weeks and $60 per test to provide diagnoses.

The global challenge

The urgency of Farmer Lifeline's innovation cannot be overstated. Globally, pests and diseases cost the agricultural sector **$220 billion every year**, while in Africa alone, **45% of all food produced is lost to pests and disease**.

With global population growth and increasing food insecurity, Esther recognised the need for scale: "*We looked at the problem of pests and diseases from a global lens, and we noticed that globally, we are losing about $220 billion in the agricultural sector, which is enough to feed about 1.2 billion people every year.*"

The role of patents

From the outset, Esther and her team prioritised patenting. They understood that innovation without protection is vulnerable to imitation, theft, and exploitation — particularly when a solution has potential global value.

She said: "*When you think about innovation, and this is the first time you're seeing a solar-powered camera being used in such a context, your first thought should be to run and protect it. It's like having a vehicle and you don't have the logbook — what other evidence do you have that the car actually belongs to you?*"

Farmer Lifeline already holds a granted **Kenyan patent** covering key aspects of its software. Additional patents are being filed for the algorithms that recommend locally available, affordable treatment options, and an **African regional patent** is in progress. The company is also working through WIPO to secure **international protection**.

Esther emphasizes the strategic importance of IP: "*Even as you scale, you don't know who is getting the device. Someone can be a farmer who needs the device, but you never know why they ordered it. So we needed to protect ourselves. We also know the importance of protecting the designs of the innovation internally, and we keep modifying how it looks so that whatever photo was taken in 2020 is not the same today.*"

Patents, in this case, are not just a legal safeguard — they are an enabler of trust, investment, and long-term growth.

Lessons for innovators and policymakers

The Farmer Lifeline case offers a clear message for innovators, especially in the Global South, and for policymakers seeking to encourage sustainable growth:

1. **Patents build credibility**
   By securing patents, startups demonstrate ownership and seriousness, making them more attractive to investors, partners, and international markets.

2. **Patents protect scale**
   Esther's vision is global. Without patent protection across borders, competitors could replicate and undermine the technology, stalling expansion.

3. **Patents secure the future**
   Esther said: "*We are looking at a business that will outlive us as founders. The IP provides a foundation that the team that will come after us can build upon.*"

Conclusion

Farmer Lifeline Technologies represents the ingenuity, resilience, and power of African innovation to solve global problem. By protecting its invention through patents, the company is safeguarding its future, ensuring investor confidence, and enabling expansion beyond Kenya.

For innovators and policymakers across the Global South, the lesson is clear: **Patent protection is not optional — it is essential for growth, credibility, and impact.**

REFERENCES

1 EPO and EUIPO (2021), 2021 Intellectual property rights and firm performance in the European Union. Analysis of a sample of 127,199 European firms, including 11,001 UK firms.

2 EPO and EUIPO (2023), Patents, trade marks and startup finance - EUIPO (europa.eu). Analysis of a sample of 298,665 European start-ups, including 81,484 UK start-ups.

3 UK IPO (2023), From public research spend to innovation: the role of registered IP. Analysis of a sample of 70,152 UK research grant holders between 2010 and 2020. Of those that reported a patent or trade mark outcome, 27% created a spinout company, 40% licensed their IP, and 49% engaged in private sector collaboration.

4 Haskel & Westlake, 2017

5 Ocean Tomo, 2020

6 Teece, 1986

7 OECD, 2023; Romer, 1990

8 World Bank, 2022

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