MICRONOC INC.

CLEANTECH IP CASE STUDY

How the Clean Virtual Power company turned grid software into an enforceable patent portfolio with PatentPC

INTRODUCTION

MicroNOC Inc. is the Clean Virtual Power company. Its patented CVP® platform is a behind-the-meter energy balance engine that turns a building's demand spikes into a managed, revenue-generating grid asset — balancing the grid one site at a time rather than waiting for expensive transmission upgrades.

The platform combines three registered technologies: CVP®, the clean virtual power layer; AERS®, an edge controller that reacts to volatile energy events in 5 to 50 milliseconds because cloud latency is too slow; and HubCharge®, MicroNOC's smart EV charging system. Green Button–connected digital metering makes the output settlement-grade. Headquartered in Rancho Cucamonga, California, MicroNOC serves commercial real estate, EV infrastructure, and wholesale energy markets.

BACKGROUND

MicroNOC was established in 2016 to cut energy waste and cost through real-time demand visibility and control. Since then its AERS® technology has been developed, tested, and validated with California's largest utilities and grid operators. The company was a 2016 Cleantech Open semi-finalist and EEI national conference exhibitor, was shortlisted by PG&E in 2018 to provide grid balancing from behind-the-meter resources, and operates as a CPUC-approved resource with CAISO participation.

That regulatory validation created an IP problem as much as an opportunity. MicroNOC's differentiation is not a physical device that competitors must tool up to copy — it is control logic, dispatch algorithms, metering architecture, and millisecond-scale edge decisioning. Software-implemented energy inventions sit squarely in the hardest examination territory: Section 101 eligibility, crowded prior art from utilities, storage vendors, and demand-response incumbents, and claim scope that collapses if drafted as a business method.

Utility procurement and enterprise real estate customers also began asking the diligence question every cleantech founder eventually hears: what exactly do you own? MicroNOC needed claims that were both patent-eligible and commercially meaningful — filed at startup speed and startup economics. Enter PatentPC.

> ***"The grid is not short on energy. It is short on intelligence. Our intelligence is the product — so protecting it properly was never optional."***
>
> JK KIM, CEO, MicroNOC INC.

LEADERSHIP

JK KIM

Founder & Chief Executive Officer, MicroNOC Inc.

JK Kim founded MicroNOC in 2016 on a contrarian premise: the grid is not short on energy, it is short on intelligence. A UC Berkeley alumnus based in Southern California, he is the inventor behind the patented CVP® Clean Virtual Power system and the HubCharge® EV charging technology, and the architect of the AERS® edge controller that reacts to grid events in 5–50 milliseconds.

Under his leadership MicroNOC moved from Cleantech Open semi-finalist to a PG&E-shortlisted, CPUC-approved, CAISO-participating resource — and turned a decade of field-validated engineering into a defensible patent portfolio with PatentPC.

SOLUTION

What first set PatentPC apart was the breadth of technology it could take on and the degree to which the filing workflow itself is automated. MicroNOC's disclosures cut across power electronics, embedded control, cloud and edge software, metering and settlement data, and market-participation logic — a mix that normally requires stitching together several different outside specialists.

PatentPC handles filings in every United States jurisdiction and asks only a few minutes of the inventor's time to set a matter in motion. For a lean cleantech team shipping to utilities and property owners at the same time, that mattered: engineering stayed on deployments instead of teaching patent lawyers the technology.

PatentPC's culture is built on continuous improvement of its attorneys and tech-stack, which has produced automation efficiency at a level previously not thought possible — and we benefit from those savings. AI accelerates the mechanical load of drafting while experienced patent counsel own the parts that decide value: eligibility framing, claim architecture, prior-art positioning, and continuation strategy.

- Eligibility-resilient drafting under Section 101 — claims anchored to concrete technical improvements such as 5–50 ms edge response, metering accuracy, and site-level dispatch rather than abstract energy trading.
- Layered families — coordinated filings across CVP® control, AERS® edge architecture, and HubCharge® EV charging instead of isolated one-off applications.
- Domain-fluent counsel — attorneys already conversant in demand response, CAISO market participation, and behind-the-meter architecture, so no education bill.
- Trademark plus patent coverage — CVP®, HubCharge®, and AERS® secured as registered marks alongside the utility filings.
- Continuation runway — pending applications kept alive to track how the product and the market evolve.

RESULTS

25	3	2021–24
US UTILITY PATENTS GRANTED	REGISTERED TRADEMARKS	GRANT WINDOW

MicroNOC saved in two directions at once. First, by working with experienced attorneys backed by a technology stack, it avoided paying outside counsel to learn behind-the-meter energy markets, and received applications with more technical depth on a far shorter cycle. Second, by switching from our prior law firm to PatentPC, MicroNOC now pays less while receiving more accurate and more efficient patent services — with 24 hour response from PatentPC.

> *"PatentPC has proven to us that it is indeed possible to receive a higher level of service at a lower cost. We're thrilled to have them on our side."*
>
> JK Kim, CEO, MicroNOC Inc.

If your product is embedded systems and software, your moat is your claims.

PatentPC pairs experienced patent attorneys with practice automation so climate and energy startups can file broader, faster, and for less — with eligibility built into the claims from the first draft. Talk to us about a portfolio strategy for your platform.