

IP Catalyst

Optimized Product Invention

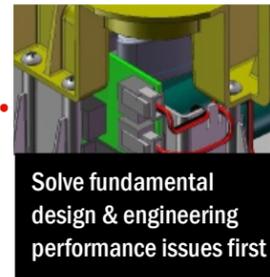
- Applied R&D
- **IP Catalyst + Product Development**
- Options



An invention is not a product

For an inventor, a concept or a patent represents a "product" with dreams of an IPO. To SPARK, it is often an under-performing, non-manufacturable and potentially, costly "design".

To avoid such missteps, a veteran partner with design and engineering expertise during the applied R&D stage is required. Such an expert can efficiently prove out IP and accelerate prototype fabrication.



IP Status

► Inventions in stages of applied R&D.



IP Catalyst

Discovery Phase 0

- Strengthen product design & engineering prior to patent.
- Shorten R&D curve, reduce the budget "burn rate" and minimize unnecessary expenses.
- Rigorously assess the invention for DFM&A based on projected volumes and economies.
- Evaluate overall design and improve patent-ability at each product development phase.

IP Catalyst Projects



Concept Proof

A scientist with a concept design for an air filtration device needed solid proof.

SPARK quickly refined the client's design, then built a working model that earned funding from the federal government for two working prototypes.



Working Model?

A tech commercialization client wanted to begin development of a pill crusher "working model".

Instead, SPARK conducted extensive R&D that redefined product performance and improved the IP and patents.



Design for Crowdfunding

A passionate outdoor enthusiast turned to our design partner, Sprocket, and SPARK to design and engineer an innovative iPhone case for adventure and gaming



Collaboration

SPARK intimately collaborated with a physical fitness expert to design a revolutionary, multi-use accessory that mimics the body's movement and tones a wide range of muscles.

What is an IP Catalyst?

An agile, resourceful product design & engineering team with a keen focus on performance, quality, economy and DFM&A.

SPARK has worked with IP based in universities and R&D labs for over a decade. Our proven IP expertise has established a multi-disciplinary skill set that optimizes IP for production, to secure funding or sign a licensing deal.

Benefits

- **Engage objective, external expertise** to critically assess the IP.
- **Reduce complex R&D** into cost-effective, sub-development steps.
- **Efficiently develop IP** to a working prototype before final patent filing.
- **Increase probability of success** – quality, performance, sales, investment.

Product Development

Concept



Invention Design

Maximize product's competitive advantages.

- Brainstorming
- Concept sketches
- CAD Layouts

Development

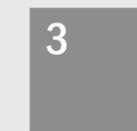


Invention Development

Refine performance, form & function

- Engineering analysis
- 3D CAD & renderings

Prototyping



Invention Proof

Maximize product invention success:

- Working prototyping
- Strong patent
- Production cost estimates and tooling specs
- Production liaison

Options

Production



Funding



Licensing



Note: Most IP projects are confidential and can only be shared in confidence

Resources •••

Resources

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SPARK Brochure

Overview of SPARK's philosophy and experience.



Product Development 101 & A-Z

Primer on product development fundamentals.



Value of Expert Product Design

Information-packed insight on Common Design Mistakes and Critical Design Knowledge.



Product Invention Brief

Common sense insight from pragmatic product developers.



Click on **PROJECTS** in our website to read or download PDFs.



Project Profiles

In-depth snapshots of client projects.



SPARK
product development

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Services

Mechanical Engineering
Industrial Design
3-D CAD
Prototyping
Tool-ready
Production Design



Richmond, Virginia

Named in 2012 by *Fast Company* magazine as one of the **Top 10 Underrated Hotbeds of Innovation**, Richmond is poised to help the region become an innovation hub – a leading scientific, educational, manufacturing and creative business community.

After celebrating our 15th anniversary in 2012, SPARK is active with fast-growth companies and start-ups, bullish on the economy and the future and boosters of the city and the region.

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