



# PRODUCTION CONSIDERATIONS

*What To Expect After Working With SPARK*

SPARK can help with all aspects of the design and development of your product, but when it comes to business and manufacturing decisions, it will ultimately be up to you or your company. SPARK can help to point you in the right direction, but there are some key questions you should be prepared to answer early on.

# Production Considerations

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## Project Intent

While it may seem trivial early on, knowing the end goal for your product design is crucial to how SPARK will approach your project. There is a tremendous difference between making one and making one million of a product. Manufacturing methods, material options, component selection, and the necessary level of design effort and detail all depend on your business plan.

### »» **PROOF OF CONCEPT / PROTOTYPING (1 - 3 Units)**

You have an idea, but you need help putting together a functioning assembly that proves it works. You want to complete more research or testing, experiment with features, secure intellectual property, or simply assure that this is a viable product. There may be more development in the future, but for now aesthetics are not a high priority. Detailed design for manufacturing can be ignored in favor of a quick design effort that can be produced using rapid prototyping methods and/or parts cobbled together from hardware stores or existing products.

### »» **PRODUCT SAMPLES / SEEKING LICENSING (1- 20 Units)**

You need a small quantity of functional, believable units to demonstrate how your product concept works. You may be distributing prototypes to gather feedback and refine your concept, or you might be attending a trade show or sales meeting where you hope to draw interest and possibly sell your design. Parts may need to be moldable for casting multiples, but detailed design for manufacturing is still not necessary. The product needs to appear viable and cohesive, but it doesn't need to be *absolutely perfect* quite yet. If another company purchases your technology (licensing), it may be redesigned to fit their brand anyway.

For individual inventors or start-up companies, this is often the most efficient route, as propping up a new business, funding manufacturing, and developing sales and distribution channels can be overwhelming in today's market.

### »» **LOW VOLUME PRODUCTION (10s - 100s of Units)**

Even if your company is going to manufacture and sell your own product(s), that doesn't mean you're necessarily expecting to sell huge quantities year after year. Some premium or niche products are intended for fewer, but higher dollar sales. These products need to consider real manufacturing methods, but can make use of more labor intensive, slower processes as the higher sales price can absorb extra expenses per part. While low volume, low price products are possible, they can be difficult to effectively create a business around. Custom parts should be minimized and designs should be simplified, focusing on maximizing profit per unit.

### »» **MASS PRODUCTION (1,000s - Millions of Units)**

Mass production opens many doors from a manufacturing standpoint. The cost per part can be slashed to a bare minimum, allowing flexibility in materials, processes, and vendors. However, the design effort should be extremely thorough, as the upfront investment in tooling for manufacturing can be substantial. You want to be sure your product is *perfect* before you pull the trigger. If enough time is allotted for a full design process up front, it's possible to successfully produce the same product, using the same tools, for years to come.

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## Domestic vs. Overseas Production

So you're wondering what happens after you're finished at SPARK? While we do *not* actually manufacture products here, we will leave you 100% prepared to approach the vendors who do, and we can provide support as needed to interact with your final production vendor.

### »» OVERSEAS

Overseas manufacturing is typically a dramatically less expensive option than stateside suppliers. However, the notion that less expensive overseas products are also low quality is now a thing of the past. Foreign vendors are capable of exceptionally high quality parts. The quality standards depend on the specifications supplied with your project as well as your selection of vendors. The more input you seek from SPARK, the more thoroughly we can document your design, allowing you to control every detail of your final product.

The challenge with overseas production is communication. If you're in unfamiliar territory speaking with a manufacturer *and* you are attempting to communicate with a professional who speaks another language, mistakes can occur. Assumptions will be made and corners will be cut if documentation is not complete. Refinement and detailing may seem tedious, but it is worth every penny if you want control over the qualitative aspects of your product.

### »» DOMESTIC

Manufacturing your product in the U.S. might be more expensive, but routine communication will be much easier. You will have the option to make a phone call and discuss your project with your facilities manager without combating time zone differences and language barriers. If desired, you can also visit most manufacturers, which will be much easier if they are located stateside.

Whatever your decision, SPARK has the experience working with vendors of all sorts and is here to help you navigate the path to production.

## Vendor Communication

If you have an existing relationship with a manufacturer or you are comfortable communicating directly with a vendor, then SPARK should be able to simply provide you with a set of files that can be handed off to your manufacturer once a project is complete. We're also happy to work directly with your manufacturer as a part is refined to assure the design fits within their capabilities and standard procedures.

If necessary, SPARK can provide recommendations and introductions for reputable manufacturers we have previously worked with, but vendor selection, price negotiations, and part orders will ultimately be up to you. We encourage you to research your suppliers and open communication with them early so you know what you are getting into before you make a final decision.

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## Additional Considerations:

Besides the manufacturing of your physical product, there are other aspects of development that should be kept in mind. For established companies, many of these resources may be readily available and will not pose a problem, but for start-ups and inventors, additional planning may be required.

### » GRAPHICS

Do you need a company or product logo? Are there graphics, labels, or branding on your product or packaging? You may want to consider hiring a graphic designer or engaging crowdsource options to bring your brand to life and help it stand out in the market.

### » MARKETING & SALES

Do you have a plan for spreading the word to consumers that your product exists? Will it require an explanation for how it works or why it is needed? No matter how good of a job SPARK does with your design, you have to be able to sell it. You can't rely on customers finding you, particularly if this is your first product. It will take a more proactive approach than simply having a website or listing your product on Amazon.

### » PACKAGING

Will your product need attractive packaging to stand out on a store shelf or can it be shipped to customers in a plain cardboard box? Depending on how your product will be sold and distributed, you may need to locate packaging design services. You will also need to be sure your manufacturer will perform whatever final product packaging is required.

### » SHIPPING

Your parts are hot out of the mold, but where will they be sent and how will it get there? Particularly if your parts are coming from overseas or in mass quantities, logistics can be a headache.

### » STORAGE AND FULFILLMENT

Where will you be storing your product inventory? How will it eventually get to customers? Generally manufacturing occurs in volume, with substantial price breaks depending on quantities ordered, so your product will need to be stored somewhere. Your manufacturer will most likely not be responsible for fulfillment.



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product development