E-Book:

The Better Way to Bring a New Hardware Product to Market

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Are you ready to learn a process for bringing a new hardware product to market that minimizes your financial risk and increases your chance of market success?

The process that I will lay out is a lot different than what you might expect, or that you've seen discussed anywhere else.

The knowledge I'll be sharing with you comes from my experience as a design engineer for a big tech company, the lessons I learned in the trenches getting my own hardware product to market, and years helping other entrepreneurs get their products to market.

Too many entrepreneurs think they need to first patent their product, then develop it, and then worry about everything else.

But the smarter strategy is to do just the opposite!

Instead, focus on everything else **before** you begin full product development or hire a patent attorney.

The reason is simple. Product development and patents are complex and expensive so to minimize your financial risk you need to delay these costs as late in the process as possible.

There is no point in spending all that time and money on patents and prototypes if you can never actually sell the product. You need to begin selling much earlier in the process.

Build a Company, Not Just a Product

For many new hardware entrepreneurs their goal is to build a new product and bring it to market. But your true goal should be to build a new company and not just a new product.

You essentially two choices: license your product to an existing company or build your own company around the product.

Licensing has its own set of challenges, and is definitely no easy shortcut. Licensing may earn you some nice supplemental income, whereas the potential financial reward for building a startup nearly has no bounds.

In this course we're going to look at the bigger picture and discuss all of the various aspects required to build a successful hardware company.

Building a successful hardware company involves so much more than just getting a patent and building a prototype.

Regardless of where you are with your product, by the time you finish this e-book you will have more clarity and a completely different perspective on how to best proceed with your product.

This e-book is split into four main parts:

Part #1: Market Research + Validation + Proof of Concept

Part #2: Planning Out Your New Hardware Business

Part #3: Marketing, Selling, and Networking

Part#4: Development, Certifications, and Manufacturing

Part #1: Market Research + Validation + Proof of Concept

The critical step I'm about to discuss is often rushed past or ignored completely. I can't stress enough how important it is to take your time and do this step right.

What I'm talking about is researching your market and validating there is a need and desire for your product. Unfortunately, talking with your friends and family does not count as market research.

Competitive research

You need to first research the competition and confirm that a market exists for your product.

When entrepreneurs do competitive research the common misconception is to think that finding any competition is bad. In fact, most entrepreneurs panic and think it's the end of their project when they find a competing solution.

In reality though, some competition is actually good because it proves there is a market. However, trying to enter a crowded market segment that is dominated by big players like Apple or Samsung for example, will prove very challenging.

It's usually best if you find some competitors, but none who are totally dominant. This way you prove there is a need for your product and there is a market opening.

You may also wish to use online surveys at this point to get general feedback on the problem your product is supposed to solve so you can understand who and how many people have this problem.

You may also wish to perform a patent search just to see what other solutions have already been patented. If you find similar patents, don't panic! Most patents are considered "narrow" scope patents which means they are easy to work around.

Don't be overly secretive

Being overly secretive is an extremely common mistake made by new entrepreneurs. However, I've never known a hardware startup to fail because someone stole their idea.

That simply does not happen. Instead, entrepreneurs fail because they've been unsuccessful at getting the word out about their product.

To succeed you need to be the opposite of secretive, you need to be shouting from the rooftops about your product and getting feedback from everyone possible.

I understand why many will be reluctant to do this without their idea being protected. As I've already mentioned, pursuing a patent is not where you should be spending your time and money.

Instead, in the United States, I suggest you file what is known as a Provisional Patent Application. This will give you protection for one year while you validate that your product idea is worth the investment of a full patent.

The beauty of the PPA is it is very simple and cheap to obtain. No attorney is needed, and you can easily file the paperwork yourself for only a couple hundred dollars. Other countries likely have something similar.

Validate your product idea

Once you've determined that a market exists for your product, and you've filed for a provisional patent or equivalent, then the next step is to validate that people will actually buy your product.

Below are some of the ways you can validate that your product will sell and is worth the investment:

Make a sales flyer – I suggest that you start by designing a nice color one-page sales flyer that visually showcases your product. You can have a photorealistic 3D model of your product designed for a fairly low cost. You can then use this model in your flyer to show off your product.

Share it with strangers – Feedback from friends and family is always going to be biased, so you need to seek out feedback from total strangers. Even simple things like sharing your idea with a stranger while waiting in line for coffee can give you some valuable, unbiased feedback.

There are various online forums to share your product and request feedback. One benefit of this method is people in forums tend to be more honest with their negative feedback. If you can find the right forum it can be a fantastic way to get unbiased feedback and also make some helpful connections.

Share it with retailers – In addition to sharing your product with strangers I suggest you also share it with retailers for feedback. Do this even if you don't plan to sell via retailers.

For example, take your sales flyer down to a local retailer that sells your category of products and show it to a manager for feedback.

You can also email your sales flyer to higher level decision makers. I did this with my own product.

I sent my sales flyer to a Vice-president at Blockbuster Video (back when they were worth billions). He liked it and that eventually led to me being invited to Blockbuster headquarters in Dallas to present my product.

Setup a sales page which goes to a waiting list – One of my favorite early ways to validate a product idea is to setup an online sales page which showcases your photorealistic 3D product model.

On this page you will have a buy button. When a customer tries to buy it you can have a message popup that says the product is not available yet, and you can ask them to join your waiting list.

Although no money exchanges hands, this is still valuable validation because customers pressing the buy button think they are about to purchase your product.

Crowdfunding – Although crowdfunding is one of the best ways to validate a product, you should usually have a manufacturable prototype first. Otherwise, it's impossible to accurately forecast when a product will be ready to ship, so you risk upsetting your backers.

Prove the Concept

At this point you have proven that there is a market for your product and that people will pay for it. Now the question you must answer is whether your idea solves the intended problem as expected.

This is the goal of a Proof-of-Concept (POC) prototype which is an early prototype built using off-the-shelf components with little to no custom hardware design.

They are usually based on development kits such as an Arduino, Raspberry Pi, or a variety of development boards available from chip manufacturers.

I've already stressed the importance of not focusing too early on a prototype, but a POC prototype is an exception because it's not overly expensive to build.

A POC allows you to prove that your product solves the intended problem, and helps give you insight into the feasibility of your product.

However, a POC prototype is rarely something that can be brought to market. The cost is usually too high, the size is too large, and the appearance is commonly rather ugly.

Define and simplify your product

Now it's time to specify the details of your product based on the market research you've done, and the potential lessons learned from your POC prototype.

You can never develop a product without a proper specification. The more details you specify the more likely you are to end up with the product you intended.

When specifying your product it's critical to avoid unnecessary complexity. It's tempting to throw every imaginable feature into your product thinking it will sell better.

You need to embrace simplicity in order to have a chance at product success. Focus on those critical core features that are essential for your product. Eliminate all of the nice-to-have but not essential features, at least for now.

You should work with experienced product developers to help simplify your product before you begin full development. Since simplifying your product lowers the engineering costs these developers should be independent from your primary developers in order to avoid any conflict of interest.

This strategy of product simplification will allow you to get to market much faster and cheaper with a higher chance of success.

Part #2: Planning Out Your New Hardware Business

In the first part we discussed the importance of market research, product validation, and proof of concept prototypes. Now it's time to plan your detailed strategy going forward.

What type of business model will you follow? What legal business structure will you select? How do you plan to sell your product? What about funding it? How much will developing and manufacturing your product cost?

These are all questions that will be answered now.

Business models

Broadly speaking there are two business models for a hardware startup.

The first is the classic business model where you have a product which you sell at a profit for a one-time fee. The second, and much better model, is a recurring sales model where your customer continues to pay you month after month.

I cannot stress enough how beneficial it is for you to incorporate a recurring revenue into your business model. For one thing it costs 7 times as much to get a new customer as it does to keep an existing one.

Think of it as Netflix versus Blockbuster. Netflix uses a recurring subscription based model, whereas Blockbuster had the classic one-time sales model. I think we all know who won this business model battle.

Recurring revenue leads to a much more predictable business since you essentially know how much revenue will be coming in over the upcoming months.

Because recurring revenue is more predictable, the overall value of your business increases significantly, even for the same amount of revenue. The recurring model can also drastically help solve the cash flow issues so common with hardware startups.

There are two basic types of recurring business models for hardware startups that we'll look at:

Hardware-as-a-Service – This is most commonly a hardware product with an recurring software service element to it. Although some profit may be made on the initial hardware sale, most of the profit comes from the backend recurring software fees.

With this model the manufacturing cost of the hardware becomes less critical. The hardware may even be sold at break-even with all profit coming from the recurring software.

Consumables – Commonly referred to as the "razor blade model" where nearly all of the profit is made on the disposable razor blade refills and not on the sale of the original razor. A more modern example is an inkjet printer which requires ongoing, and expensive, ink cartridges.

Legal business structures

Selecting the right type of business structure for your startup is critical. It affects how much you pay in taxes, your ability to raise outside funding, the paperwork you need to file, and your personal liability.

There is already plenty of information online about legal business structures so I won't go into much detail here, instead I'll share my recommendation for hardware startups.

If you are in the United States, then my recommendation is to start with a sole proprietorship while researching your idea, then migrate to an LLC as soon as you are serious about proceeding.

Finally, consider a transition to a C-corporation once your company is profitable or you bring on equity investors.

Other countries will have similar options in most cases to the sole proprietorship, LLC, and C-corporation.

Estimating costs

Before you proceed to full product development you need to have a solid understanding of your expected costs. Without knowing these costs in advance it's impossible to create a realistic plan to get your product developed and on the market.

You can break down costs into three areas:

Development cost – This will consist mostly of engineering fees and prototype costs. This includes the cost to develop the electronics, software, and enclosure. You need to know this cost so you can ensure you have sufficient funding to complete development.

Scaling cost – This is the cost to scale your product from a few prototypes to mass manufacturing. Most of this cost will be for electrical certifications and high-pressure injection molds required to mass manufacture your product's custom enclosure.

Manufacturing cost – This is perhaps the most important cost for you to know in advance. It will determine your sales price, how much profit you can eventually make, and how much money you will need to purchase inventory.

Most entrepreneurs make the mistake of calculating the manufacturing cost *after* development is completed. But, you need to do it before. This ensures that your product can be eventually sold for a profit before you spend the money to develop it.

Funding

Self-funding – This is your most likely option when just starting out. The more progress you make with self-funding, the easier it will be to raise outside funding.

Friends and family – This can be an early option in addition to self-funding. I recommend using this only for small amounts of initial funding. Startups are a very high-risk investment that most people don't understand. If you lose grandma's savings you may never recover.

Co-founders – Bringing on co-founders not only adds other skills to your team, but they can also serve as additional sources of income.

Angel investors – Angels are wealthy people with money to invest in early stage startups. They typically understand the risk of investing in startups. As with any type of investor, you need to have a personal connection to have a real shot at getting their money, so start networking now.

Crowdfunding – This is the hottest way to raise money for many startups today. However, you need two things to make this work: a large audience and a quality prototype. Most startups have neither when first starting.

Startup accelerators – Startup accelerators can be a good option, and are a great opportunity to learn in addition to getting funding. The main problem is they're difficult to get into, and they're very limited depending on your location.

Product contests – Winning a product contest not only provides you with funding, but it also serves as great product validation.

Manufacturer financing –A manufacturer may agree to amortize your initial costs (development, molds, etc.) which means you repay them by paying a small additional fee on each unit manufactured. They can also offer you improved payment terms. Both of these are essentially interest-free loans.

Invoice factoring / PO financing – If you get a large order from an established company, then you can easily borrow the money to produce their order. The beauty of this method is that it's your customer's credit rating that matters, not your own.

Venture capital - These are large, professional investment companies that invest in later-stage startups. This could be an option when you need more capital in order to grow faster.

My personal funding strategy: For my own hardware product that I brought to market, I self-funded until I had a presentable prototype. Then, I primarily used manufacturer financing to fund the remaining development and initial orders.

Sales and distribution plan

Do you plan to sell your product directly to consumers on your website? Or do you plan to sell it on Amazon? What about selling through retail chains or distributors? Or will you be selling strictly to other businesses?

These are all questions that you need to answer soon. For most consumer products my recommendation is to start by selling directly to consumers via your own website.

There are several key reasons. First, this strategy gives you the most profit margin since no one else is taking a cut of your profit (other than advertising costs).

Secondly, selling directly to consumers gives you the best shot at getting direct feedback from end users. If you instead sell your product through retailers, then you don't get direct feedback from consumers.

Finally, selling directly on your website is the easiest way to get started. Once you have proven the product will sell then you can leverage that sales proof to get retailers interested.

Get an advisor, or better yet, get multiple advisors

As you are probably now understanding, there are a lot of different aspects to getting a new product developed and building a hardware company around it.

It is impossible for one person to be an expert in all of these different areas. Sure it can help if you have multiple founders with different areas of expertise, but unless you have actually built a successful hardware company previously, it's unrealistic to think you have all of the answers.

If you already know people with the expertise to advise you then that's great. But most entrepreneurs don't have these types of business connections.

One option in the U.S. is called SCORE which is a non-profit made up mostly of retired business executives who want to "give back" by helping new entrepreneurs.

Unfortunately, from my experience, it's very difficult to find a SCORE advisor with any experience in hardware. Nonetheless, even an advisor with basic business experience can be beneficial.

Bringing a new product to market is similar to traversing a minefield. Your chances of making it across successfully are slim if you try it alone. You need a guide with the necessary expertise to help you navigate the complex journey to market.

Part #3: Marketing, Selling, and Networking

In the previous part we discussed planning out your business. Now it's time to focus on those things that most entrepreneurs mistakenly delay until it's too late.

What I'm talking about is the importance of early marketing, selling, and networking before you begin the expensive product development stage.

Online / Content Marketing

If I had to pick one element of this entire process of bringing a product to market that is the most critical to your success I would have to say it is marketing.

I know how tempting it is to focus all of your energy on getting your product developed. For many entrepreneurs, especially introverted technical ones, marketing, selling, and networking are scary unknowns. I know because that was the case for myself.

My goal is to make this all a bit less scary, and to help you understand why you need to focus on these activities much earlier than you may think.

Online marketing essentially comes down to creating content, collecting emails, and building relationships with your audience. It's simple, but by no means easy!

Your marketing success is built on developing relationships. People will be many times more interested in what you have to offer after you have developed a relationship with them.

Unless you have lots of money to spend (or more likely, waste) on advertising, then content marketing is by far the best strategy to get your message out there.

With content marketing, you create a blog loaded with useful information for people that may be interested in your product in the future.

The key to being successful with content marketing is to *give*, *give*, and *give*, and then eventually *ask*. Focus on providing a ton of useful content, and not asking for something too soon.

Importance of an audience

I can't stress enough how critical it is to have an audience for your product.

Having an audience helps you gather feedback on what features you should include in your product, which is critical whenever you run a crowd funding campaign or begin selling your product.

The biggest mistake I see entrepreneurs and startups make is they wait until they complete product development before they give any serious thought to marketing or sales.

Building an engaged online audience is a slow process that requires a ton of effort, so you need to begin now.

Create a website with amazing content

The easiest way to set up a website and blog is by using WordPress. That's what I use for my website, and it's by far the most popular content management platform.

Once you have a website, next comes the hard part, creating the actual content. This can be blog articles, videos, a podcast, infographics, etc.

Content marketing and blogging are long-term strategies. Content you create today may very well not pay you dividends for a year or more.

But what should you even write about since you don't yet have a product to sell? Definitely do not just talk about your product. No one cares yet. Instead, you must provide helpful content that your target market wants to consume.

For example, if your product is a fitness product, then you can write about fitness and health. Once you've provided something of value then you can eventually begin sharing your product and asking for feedback.

Build your email list

Once you start to get more visitors to your website, you need to get them to signup for your email list. Having an email list allows you to form an ongoing relationship with potential customers.

With online marketing, it really is all about email subscribers. Other types of audiences aren't nearly as important. In fact, your goal should be to get your other audience members (social media followers, podcast listeners, etc.) to subscribe to your email list.

There is a common saying among internet marketers: "the money is in the list". Specifically they mean the email list.

But you can't just ask people to join your newsletter. Joining a newsletter is a vague commitment and not necessarily that appealing.

While there's no harm in encouraging visitors to sign up for your newsletter, don't let it be your only strategy for gathering email addresses. It is much better to offer people something of value (such as a PDF download) in exchange for their email address.

You want to offer them something of value that is directly related to your product or market. You don't want to build up a random list of anyone and everyone. You want to build up a list of people who are specifically targeted because they could be potential customers.

Once you begin collecting email addresses, then the next step is setting up a way to stay in contact with your audience. For this you will need an email marketing service provider.

There are various options out there. MailChimp is what I use, although if I had to pick again I'd probably go with ActiveCampaign or ConvertKit.

Finally, a common mistake people make with building an email list is they focus all of their efforts on getting people to join their list, but not on building and maintaining a relationship with those subscribers.

Unless you consistently engage with your email subscribers they will forget about you, and there will be no trust built.

Where's the website traffic?

Everybody of course wants to know when they're going to get more Google traffic.

Google prefers to send their users to websites with links from other websites, and that are consistently active at producing new content.

This means it's going to take 6-12 months before you're going to see a really significant spike in Google traffic. Trying to increase your Google traffic is a long, slow grind, like almost everything in business.

When you first get started, you're going to be doing lots of blogging, but no one's going to be reading it because no one knows about you. It takes Google a long time to start sending you any significant traffic, and they won't send you much until other websites link to your site.

This means you're going to have to work really hard for probably the first year to reach out and bring people to your website.

Guest blogging is one of the best ways to do this. Guest blogging is when you offer to write a blog post on another website. In exchange they will at the very least allow you to include a link to your website in your bio at the end of the article.

What about social media marketing?

One mistake I see a lot of people make is over-focusing on social media. You should probably have social media accounts, but it is dangerous to rely too heavily on them for marketing.

The truth is, nothing compares to the effectiveness of email. It's at least 10 times as effective as social media.

You can spend lots of time, money and resources trying to build a Facebook audience. But if something goes wrong with your account, you will have very little recourse.

The beauty of an email list is it's a valuable asset that you own. Even if you get blocked from your social media accounts, or Google stops sending you traffic for some reason, you will still have your email list.

Social media is mostly just a big drain on your time. Focus on creating valuable content and building your email list, not on your social media following.

Sell it before you make it

There is one simple way to eliminate most of the risk of bringing a new product to market.

Sell it before you make it!

Unfortunately, that is usually easier said than done, especially for any new physical product. But strive to implement this mindset into your strategy as much as possible.

In practice, it will be difficult to get purchase orders before you have a prototype. Some making is necessary. At the very least, sell your product before you manufacture it.

The best way to implement the sell it before you make it policy is by *pre-selling* your product.

Pre-selling simply means you collect money now from customers with the understanding that they will get their order once it is available.

Obviously, selling something that isn't available yet, requires considerable trust so start building up that trust now.

There are a few ways to pre-sell your product. You can take pre-orders on your own website, you can run a crowdfunding campaign, or you can get advance purchase orders from other businesses.

Running a Kickstarter campaign is one of the best ways to pre-sell your product. The easiest, and less stressful, option is to pre-sell your product on your own website.

Although you can't always sell a hardware product before you make it, what you can do is minimize the amount of making that you do before selling.

Keep your product as simple as possible and begin marketing as soon as possible. Once you have a prototype then begin pre-selling it before you order production volumes.

You can't do this alone

Marketing is focused on your customers and your product (notice how I put customers before product), whereas networking is more focused on connecting with potential investors, advisors, co-founders, and other businesses.

You simply cannot bring a new physical product to market entirely on your own. It is just unrealistic to think you can.

It will likely take a lot of connections to get a new hardware product to market, so you must start actively networking now to build up your list of connections. LinkedIn is a great place for making connections, especially for potential investors.

Part#4: Development, Certifications, and Manufacturing

In the previous part we discussed marketing, selling, and networking. Now it's finally time to focus on those things that most hardware entrepreneurs want to focus on from day one.

In this part I'll be discussing product development, electrical certifications, and manufacturing your product. Let's start by reviewing the different strategies for developing a new hardware product.

Development options

There are multiple ways for you to develop a new physical product and bring it to market. However, the strategy that is best for you depends on your specific experience, your product, your team, and your finances.

There isn't a single development strategy that is best for everyone, so we'll look at five different development options.

In many cases you may find that some combination of these options is best.

For example, you may wish to design the electronics yourself, hire a freelancer to do the software, and partner with a manufacturer for the enclosure.

Option #1 - Do the product design yourself
You'll need to be experienced with electronics design, programming, 3D modeling, and manufacturing. In most cases, you may have one or two of these skills, but will likely need to outsource some of the other steps.

Option #2 - Find an engineer to become a co-founder
Bringing on co-founders can be a great option if you lack the necessary technical skills or lack the money needed to hire outside engineers.

But finding good co-founders can be very challenging. You will be tied to them for years, so make sure they are a good fit. Also, bringing on co-founders reduces your equity in the company.

Option #3 - Hire freelance engineers
Keep in mind that very few engineers will be knowledgeable in electronics circuit design, programming, 3D design, injection molding, and design for manufacturing (DFM) so you will likely need more than one engineer.

You will also need to manage the various engineers to make sure all of the pieces fit together properly to form your final product.

Option #4 - Hire a full design firm
The main advantage of hiring a full design firm is that all of the engineers work together and the firm will fully manage the project.

If you lack the skills necessary to manage various freelance engineers then hiring a full design firm may be a better option.

The big downside though is that hiring a design firm to develop your product is the most expensive route.

Option #5 - Partner with a manufacturer
If you can find a manufacturer already making something similar to your own product, they may be able to develop your product.

This can sometimes be one of the cheapest and fastest ways to get through development, especially if the manufacturer has already developed a somewhat similar product.

The downside is the manufacturer will likely want an exclusive manufacturing agreement.

Development process

The development process for most hardware products can be broken down into three parts: the electronics, the software, and the enclosure. We'll look at each separately.

Electronics design
Designing the electronics can be broken down into 3 basic steps:

Step 1 – Select the critical components based on performance, cost, quality of tech support, and long-term availability.

Step 2 – Design the schematic circuit diagram which is a conceptual diagram that is similar to a blueprint for a house. The schematic circuit diagram shows exactly how all of the components, from microchips to resistors, connect together.

Step 3 - Once the schematic circuit is done it's time to design the actual Printed Circuit Board (PCB). The PCB is the physical board that holds and connects all of the electronic components.

A PCB is made up of stacked layers for routing the electrical signals. The simplest PCB uses just two layers. More complicated designs need more layers to connect everything together.

Step 4 – Prototype, test, debug, and repeat until you get a final working prototype. When creating PCB prototypes, I recommend using a professional PCB prototype shop instead of trying to hand solder your own boards, otherwise it can make debugging more difficult.

Software development
Just about all modern electronic products include a microchip, called a microcontroller or microprocessor, that acts as the "brains" for the product.

The microcontroller or microprocessor needs to be programmed to perform the desired functionality. This program is embedded inside your product and is called firmware.

Many products will also require a custom mobile application or perhaps custom computer software.

In most cases, it's best to have the same team develop your product's firmware because it requires a deep understanding of the electronics design.

It's more feasible to outsource the mobile app to other developers, but it's ideal if they too are part of the same team. That being said, it requires a totally different skill set to develop a mobile app compared to low-level firmware.

Enclosure development
The first step in developing your product's enclosure is the creation of a 3D computer model.

The 3D model can then be turned into a physical prototype, and eventually into a manufacturable version of your product's enclosure.

This model can also be used for marketing purposes, especially before you have functional prototypes available. You should request a photorealistic version of the model for marketing.

For prototyping a few units of your enclosure you will likely use 3D printing technology. Some products may also create prototypes using CNC machining.

For producing small batches of your enclosure you will likely use a process called urethane casting. And eventually, for mass manufacturing, you will use high-pressure injection molding.

Certifications

Almost all electronic products sold must have various types of certification. The certifications required vary depending on the product and the country where the product will be sold.

Below are the most common certifications required in the USA, Canada, and European Union.

FCC (Federal Communications Commission) certification is necessary for all electronic products sold in the United States that oscillate above 9 kHz (which is most products).

All electronic products emit some amount of electromagnetic radiation (i.e. radio waves) so the FCC wants to make sure that products don't interfere with other wireless communication.

UL (Underwriters Laboratories) or **CSA (Canadian Standards Association)** certification is necessary for any electrical products sold in the United States or Canada that plug directly into an AC electrical outlet.

Fortunately, for most products there are ways to avoid the need for UL/CSA certification.

CE certification is needed for the majority of electronic products sold in the European Union (EU). It is similar to the FCC and UL certifications required in the United States.

RoHS certification ensures that the product is lead-free. RoHS certification is required for electrical products sold in the European Union (EU) and California.

IEC62133 certification is required for rechargeable lithium-ion batteries. Fortunately, you can typically purchase existing batteries that already have this certification.

Conclusion: Certification requirements can be quite complex, so be sure you consult with experts about the regulatory requirements for your specific product.

Manufacturing and Operations

Manufacturing and operations become a major part of your business once you start selling. You now have to manage all the logistics associated with the manufacturing, warehousing, and shipping of orders.

At some point you will probably have your product manufactured in China. You have to arrange transportation from the factory to a Chinese sea port, where it will be loaded onto a cargo ship.

You then need to arrange for the product to be trucked from the arrival port, say Los Angeles, to wherever you have paid for warehousing.

Once in your warehouse in the U.S., you have to take care of shipping it from the warehouse to your customers.

One of the biggest costs in bringing a new hardware product to market that so many entrepreneurs overlook, is the high cost of the high-pressure injection molds required to manufacture your product's plastic enclosure.

These molds will cost at least a few thousand dollars each, and for higher production volumes they can easily cost over $10,000 per mold.

It gets worse, because most products will require at least two molds, with many products needing 4-8 individual molds.

The best way to minimize the cost of molds is to start simple, using molds for lower production volumes. Also be sure your 3D model is optimized for injection molding which can greatly reduce their cost.

Fortunately, by this stage in the process you should have some outside options for funding these molds. This is where the manufacturing financing I discussed in part two is ideal.

This can also be a good time for a crowdfunding campaign which can be used to pay for these molds and your first production orders.