Introduction

What Starts With an Idea

Every company and every success story begins with a scribble and a rough idea. Product development is its evolution — the set of processes needed to bring that flicker of an idea to market.

Whether it’s a completely new concept or modifying an existing product line, product development is complex and iterative in nature. We created this guide to provide transparency and a reliable source of information for new entrepreneurs or existing business owners looking to better understand these processes.

Navigating Your Journey

Every entrepreneur’s journey will be different. No matter the entrepreneur or the industry, product development is never linear. Timelines change. Budgets are modified. Priorities alter. But to give you a better understanding of the process and how to navigate its complexities, we’ve drawn from our many years of engineering, design, and manufacturing experience to guide entrepreneurs through our product development process and provide a frame of reference on what to expect.

How We Can Help

We’ve partnered with a variety of up-and-coming entrepreneurs, rising startups, and established businesses to create custom and turnkey solutions across industries. With offices in Canada, the United States, and Europe, we’re ready to help you — no matter where you are. Whether it’s starting your next big idea or revamping an existing one, our team can help you get your ideas off the ground and in motion.
Product development is not a simple path forward — it’s an evolution characterized by layers of revisions and unexpected discoveries.
We begin by scheduling an initial touch base with you to discuss your product idea and business objectives. Our goal is to establish product requirements to create a shared vision going forward. This includes gaining a deeper understanding of your ideal customer, and the problem your product is seeking to solve for your customer. We conduct preliminary research to study your concept, and related fields including patent needs, current business environment, emerging technologies, product needs, user needs, etc.

What to Expect
Once we have drawn meaningful conclusions from our research and initial requirements are specified, we map out a timeline so that it can be translated into a manageable reality. This includes the scope of work, patent needs, estimated project costs, product requirements, and so forth.

Your Idea Explored
Concept development is an iterative process but together with our design and engineering team, we visualize the abstract. Through sketching, crude models, flow charts, scenarios, and/or wireframes, we create intentional product concepts rendered with style.

During this phase, we offer the option of developing a marketing and brand strategy. Through our strategic branding services, we weave together a cohesive and distinct identity for your product and/or company — including a visual identity like logos, fonts, colours, and a consistent brand voice and personality. This is available at any point but recommended to start earlier in the design process to best reflect your vision.

What to Expect
From here, a final product concept can be selected to move to the next stages of development.

Your Idea Conceptualized
Based on the final concept generated in the previous phase, our design and engineering team will begin turning sketches into 3D models that reflect real world conditions. To do this, we further define the product’s characteristics, design goals, and objectives and reflect these in the product’s physical properties — while remaining committed to your priorities and vision. This phase is highly iterative; we collectively evaluate shape, proportions, colour, materials, and finishes as well as product branding. This is achieved through digital sketches, CAD models, 3D printing, and low-fidelity renderings.

What to Expect
After design reviews are completed, we provide low-fidelity renders, CAD models, and 3D printed models that provide deeper insight into the design direction proposed.

Your Idea Refined
We develop several prototype iterations in the prototyping and testing phase before reaching production readiness. Our team will complete a detailed assembly of manufacturable components, using cutting-edge technologies to produce three key prototypes. The initial proof-of-concept prototype will verify and validate the feasibility of the envisioned product and is often used to secure more funding and gain market traction. The alpha prototype is where the product will begin to fully form — together we decide on features and design elements to include in the final product. The beta prototype is close to being production ready. It is meant for adjusting any final details before investing in large-scale tooling. Each one of these prototypes goes through comprehensive rounds of testing and will get you one step closer to a product that is customer ready.

With the proof-of-concept, we complete all testing internally. With the alpha prototype, testing will be done by our internal team and by trusted partners. Lastly, with the beta prototype, testing will be done by initial customers and early adopters.
We conduct multiple rounds of testing, product changes and iterations. It may feel like you’re going in reverse to go forward, but changes in design and engineering are inevitable. Finding any bugs, design flaws, or discovering customers are using the product in unintended ways will happen—the key is to catch this early on and prior to manufacturing. Throughout this phase, we also conduct a multitude of design and engineering reviews to optimize product reliability and performance and validate all proposed iterations. Depending on the industry and if patents are required, we offer support services to navigate and complete these requirements.

What to Expect
This step will result in a fully functional prototype close to your final product. But slight changes, such as exact materials used, often occur in product manufacturing. Documentation such as product specifications, product drawings, bill of materials, product labelling, and instructions for use will also be prepared and completed by the end of this step.

05 Final Design & Handover

Your Idea Finalized
The following step is considered the conclusion to the string of iterations from the previous step. There may be very slight form refinements; however, the main objective of this step is to prepare a final design for manufacturing (DFM). Once satisfied with the final design, we can begin to source manufacturers and obtain quotes depending on quantity, price, timing, and location. We take care of all the tooling, part sourcing, assembly, packaging, and logistics as needed.

What to Expect
Handover to manufacturing will include renders, full-scale finished models, detailed design reports, full presentation boards, assembly instructions, cost structure breakdown, design guidelines, a user manual, pattern libraries, graphical elements, etc. We also conduct quality checks and verify procedures before manufacturing begins.

06 Manufacturing

Your Idea Becomes Commercial Ready
Over the course of this phase, we source, then receive several samples from a contracted manufacturer — making modifications until the product meets your precise requirements. If the product sample received aligns with your vision, pilot production can begin. Our team will ensure manufacturing is completed successfully and efficiently by supervising the product’s pilot production run (a limited quantity of the product are initially manufactured), and suggesting iterations where needed. Once small tweaks have been made and we have received your final approval, mass production can begin.

What to Expect
At the end of this step, the manufacturer will have met all required expectations with all necessary resources and processes in place to do so.

07 Post-Market

Your Idea Sustained
At this point in time, core development is considered finished. However, this does not signify an end to our relationship. We provide ongoing support as production continues, including any corrective and preventive action as required, known as sustaining engineering. We also offer ongoing branding and marketing services at any point in your product’s development or market lifecycle.

What to Expect
Sustaining engineering can include software updates, addressing any technical bugs, or overall product maintenance. Our team often manages any new product versions/ upgrades and/or extended marketing and branding services.
## The End-to-End Product Development Process

<table>
<thead>
<tr>
<th>Stage</th>
<th>Activities</th>
<th>Responsible</th>
<th>Exit Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Product Research</td>
<td>- Conducting initial client meetings and familiarizing with the user problem and aligning product specifications. - Ensuring the user problem and aligning product specifications. - Conducting user interviews, analyzing research articles, completing a competitive review, patent review and brainstorming. - Identifying the innovation technology that can bring your product to life.</td>
<td>Design, Engineering &amp; Client Design</td>
<td>- Sufficient research has been completed and establishing requirements.</td>
</tr>
<tr>
<td>2. Concept Development</td>
<td>- Transforming the problem into viable concepts evaluated in common use. - Sourcing data and information. - Developing idea concept. - Exploring ergonomics, human factors and form.</td>
<td>Design, Engineering &amp; Client Design</td>
<td>- Design concepts have been developed and a final concept has been selected and presented to the client.</td>
</tr>
<tr>
<td>3. Preliminary Design</td>
<td>- Further defining specific design goals, products, characteristics and options. - Designing and prototyping. - Exploring requirements, human factors and form.</td>
<td>Design, Engineering &amp; Client Design</td>
<td>- Design concepts have been developed and a final concept has been selected and presented to the client.</td>
</tr>
<tr>
<td>7. Post-Market</td>
<td>- Core development is finished. - Ongoing support.</td>
<td>Contract Manufacturer Brain Team &amp; Client</td>
<td>- Ongoing support. - Continuing refinement of the product. - Sourcing: Collecting data on quality assurance of goods and services, negotiating final rates and product testing. - Stocking. - Launching the production line. - Updates to design for manufacturing process. - Field production. - Mass production. - Launch in market.</td>
</tr>
</tbody>
</table>
Conceptualized by you, made by us.

We coordinate all seven steps of the product development process under one roof. Our in-house design, engineering, branding, and marketing professionals work cohesively together. We have developed strong communication protocols and supporting processes that create a well-integrated experience across department lines — streamlining the product development process.

We adopt a user-centred approach.

We elevate products through a user-centred approach. In every facet of our design, marketing, branding, and engineering we focus on the user. Our team researches, analyzes, and innovates to solve your user’s problem through the creation of remarkable products and experiences —and always with style.

Solutions tailored to your needs.

No matter the industry or size of project, whether you’re building a new idea or revamping an existing one, everything we create is done to a high standard of excellence and customized to the unique needs of each one of our clients. We approach every project with out-of-the-box thinking and strive for innovation that sets our clients apart from their sector.

Tracking made simple with Velavu™.

Our work with the award-winning asset management company, Velavu, exemplifies the end-to-end solutions we provide. We developed all hardware in their ecosystem of tracking products, the software and mobile app, visual design, branding and marketing/communications work needed to move this startup off the ground.

Ensuring proper dosage with BreatheSuite™.

BreatheSuite partnered with Brash for an inhaler add-on + app that collects data and provides feedback on inhaler use. Our team designed the firmware, hardware, PCB and developed enhanced algorithms to enhance the machine’s learning capabilities and make it smarter. We also created BreatheSuite’s cohesive branding experience.

Reducing neck injury with the Department of National Defence.

In response to the prevalence of neck pain present for aircrew personnel with the Canadian Armed Forces, we were contracted by DnD to research and develop a novel solution that unloads headgear induced forces acting on the neck. Our design, the Helmet Support Exoskeleton (HSE), addressed operational concerns, such as quick-release functionality and minimal product interference operating within the cockpit environment and with user movements during flight.
How much will my project cost?

Our team knows that finding a partner who works within your budget is a must. However, each project’s cost is highly dependent on the project scope, requested features, and client requirements. Let’s chat so we can provide you with a detailed cost breakdown and quote based on your product needs and business objectives before beginning the process.

How long will it take to bring my product to market?

Each project will vary in time and depending on the complexity of your project and the regulatory approval required, timelines will vary. However, we provide our clients with an estimated timeline before initiating project kickoff once we have determined the scope of your project.

Do I have to go through all steps of the product development process to work with you?

No, we can jump in at any point in the process! You may not need all steps in the process for your product, and you do not need to use our service for every part either to partner with us.

Can I still work with your team if I am not located near a physical office?

Yes, we are an international firm and many of our clients are located in other countries. With video conferencing and other forms of electronic communication, we are able to create your products and regularly update you on product development without needing to meet in person. No matter where you are located, we can help bring your product to market.

How can I get started?

Contact us with any of your inquiries and we will provide you with all necessary information on how to get started.

Have more questions? Let’s chat!
letsgo@brashinc.com
It’s not just a product, it’s our passion.