

# Product Design Brochure

2025







# Philosophy

---

Brash is a full stack product development firm. With focus on user experience, usability, emerging technologies and manufacturing, the Brash team aims to deliver products which are engaging, intuitive and truly revolutionary.

Using a combination of Industrial Design, UX/UI Design, Mechanical and Electrical Engineering along with PCB Design, Automation and AI Design, the team at Brash are able to develop ideas from their initial concepts all the way through to fulfillment and are able to step in anywhere in between.

Brash's client list is made of companies of all sizes and come from a number of industries including the medical field, consumer electronics, software and mobile applications, industrial equipment, dental and many more. The wide array of expertise and a vast knowledge base allows the team to develop revolutionary products and helps to shorten lead times and reduce costs.

The Brash philosophy is to develop products which take into account the engineering and the design at every step of the product development process. This collaborative philosophy allows for solutions which are just as beautiful and engaging as they are technically advanced.

# Services

---

## INDUSTRIAL DESIGN

User Experience Design  
User Interface Design  
Design Research  
Human Factors and Ergonomics  
Trend and Competitive Landscape Analysis  
Brand Strategy and Development  
Concept Generation and Sketching  
Colours, Materials and Finishes  
Mechanical and Surfacing Engineering  
Prototype and Model Making  
Manufacturing Sourcing  
Supply and Logistics  
Part Manufacturing Analysis  
Full production Assistance  
Graphic Design  
Field Testing  
App Development

## ENGINEERING

AI and Data Science  
Systems Design  
Machine Learning  
Robotics  
Mechanical Design  
Electrical Design  
Medical Device Design  
PCB Design  
Embedded Firmware Programming Mechatronics  
Vision Systems  
Kinematic and Dynamic Modeling Design for Regulatory Standards Risk Analysis  
Quality Management  
Advanced Control Systems  
Sensor Processing  
Python  
C/C++  
Matlab





# Asset Management and Tracking with **Velavu™**.

The idea behind Velavu — an award-winning startup — arose when the two founders noticed a gap in the asset management and tracking industry. They capitalized on the opportunity, and partnered with Brash to create a solution that seamlessly integrates and automates two types of smart tracking under one platform.

The founders’ vision for Velavu was to create an entire system of both hardware and software that are intuitive and impossibly easy to use. Following in that vision, our engineers meticulously crafted the internal hardware with key integrations that enabled automated features like NFC for tap and go set up; Bluetooth mesh, GPS and LTE to ensure full coverage across all tracking environments; and environment sensors like temperature and humidity to monitor surrounding conditions of each tracking device.

Our industrial design team designed the rugged enclosures for each device. They are IP67 waterproofed and built to withstand the harsh elements, but also designed to look impossibly sleek. The overall minimalist design, the soft curves and the subtle beveling of the device casings exemplify that central theme of ease— differentiating Velavu in an industry where devices generally require more complicated setup and maintenance.

## INDUSTRIAL DESIGN

- Concept Development
- Casing Concepts
- Sleeve Design
- Materials Research
- CMF
- Prototyping
- Brand Development
- Design for Manufacture

## ENGINEERING

- PCB Design
- Component Selection
- Image Processing and Refinement
- Mechanical Design
- Mechanical Assembly
- Prototyping
- Manufacturing Support





# Influencing the influencers with DOMONO™.

Inspired by activist movements, the founders at DOMONO saw an opportunity to create a product that not only facilitates filming viral videos but also provides a safety net to discretely record tense encounters or potentially dangerous situations. The founders approached Brash with their idea to build a phone case with a detachable camera incorporated into the case design that directly connects with a user's cell phone.

Project requirements on the hardware side included a removable recording device that clips on to your person, can also be set up on a flat surface, but still maintains a small form factor. To make this possible, our electronics engineers designed a custom PCB that integrates the camera module, host processor, and additional image signal processing electronics — facilitating the camera's functionality and optimizing the complicated circuitry. This was crucial in creating the smallest-sized camera without compromising on device performance, video quality, streaming capabilities and ensuring a long battery life.

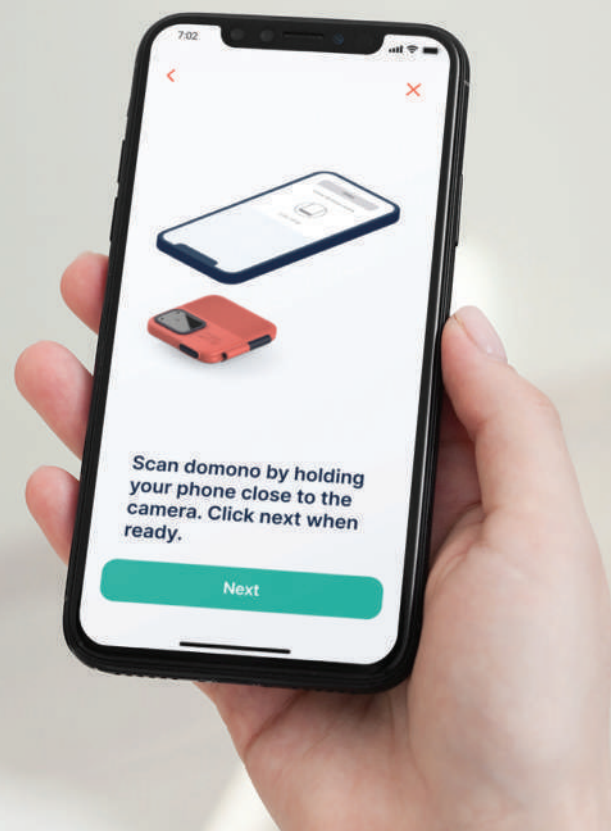
Our work with DOMONO is a true end-to-end experience that began with extensive market research, concept development, early-stage prototypes, and now centers on providing support and services in the late stages of product development and manufacturing— leading up to an official market launch in the not-so-distant future.

## INDUSTRIAL DESIGN

- Concept Development
- Casing Design
- Materials Research
- CMF
- Prototyping
- Brand Development
- Design for Manufacture

## ENGINEERING

- PCB Design
- Component Selection
- Image Processing and Refinement
- Mechanical Design
- Mechanical Assembly
- Prototyping
- Manufacturing Support







## Infusing Handicare™'s product lines with new technology.

Handicare offers solutions and support to increase the independence of physically challenged or elderly people to enable them to live active lives on their own terms. They make medical devices in two areas: accessibility and patient handling. Handicare develops multiple devices in these areas including stairlifts, vehicle conversion products, wheelchair lifts, and patient transfer systems.

Brash's partnership with Handicare has spanned five years. During this time, Brash has worked to develop and innovate multiple Handicare products. As Handicare's centralized development team, Brash has added innovation and new technology to existing and upcoming product lines. Projects have ranged from developing new haptic control interfaces for ceiling lifts, to developing web and mobile applications for caregivers, and brand unification across all product lines.

The relationship between Brash and Handicare is one of integration, with engineers and designers from both teams working together across the world to make the most successful product possible.

A more detailed case study of Brash's work is available by request.

### INDUSTRIAL DESIGN

- User Experience Design
- User Interface Design
- Brand Strategy
- Concept Generation
- User Research
- Testing
- Manufacturing
- Parts Sourcing

### ENGINEERING

- System Architecture
- Asset Tracking
- IoT
- PCB Design
- Dashboard
- Mechanical Design
- Enclosure Design
- Firmware Development
- Dev Ops





## Handicare™ Assist Portal: Imbuing existing products with smarter tech.

Handicare Assist Portal is a new application developed by Brash to help customers, dealers and manufacturers track their Handicare device usage and maintenance. Assist enables real-time monitoring of devices, identifies potential problems, and facilitates remote diagnostics.

The Assist project is part of an ongoing partnership between Brash and Handicare. In developing Handicare's 'products of the future', questions arose in how to create smarter, more innovative and technological methods of patient handling. Part of this initiative was to create a better support experience for customers, dealers, and manufacturers. Brash developed dedicated hardware that enables real-time monitoring of Handicare devices, provides alerts, and enables remote diagnostics of problems such as battery issues. This proactive approach allows for a better customer experience through preventative device maintenance.

Once again, Brash's team worked to provide a completely integrated solution to multiple design and engineering challenges. Cloud-based infrastructure was built to relay data from existing devices to an interface that interprets data and displays information to users and technicians. Advanced sensing and algorithm development built in intelligence to be proactive by measuring, identifying and predicting events. UI/UX was designed within a dashboard to best display information to clients and technicians.

Brash's work on Assist allows Handicare to explore new business models, and opportunities to generate recurring revenue. By leveraging connectivity and modern technologies, the company benefited with opportunities for new revenue. Devices could also be updated without having to replace preceding units, thereby reducing costs to customers.





## Handicare™ Research, Development and Exploration.

---

Part of Brash's relationship with Handicare included a mandate to develop new concepts for all of their patient handling products. Handicare was looking for new ways to add innovation and creativity to their existing and future product lines. They wanted fresh ideas about how to differentiate their product lines to stand out in a market where all patient handling devices look and feel similar. Brash examined all of Handicare's product lines and proposed several concepts which could be implemented over the short and long term. These concepts would not only unify Handicare's brand identity, but would also add a much higher level of technology to their products to provide new features and value.

Brash discovered several customer pain points that could be addressed with better technological solutions. Customers with ceiling lifts often felt shame in having to use the devices, and Brash examined options to make the lifts more discrete and to have them better fit into the environment. Some options were installing robotics to automatically fold the lift into a cabinet or ceiling trapdoor. Other options were to make the ceiling lift rails more sleek and compact.

Challenges associated with floor lifts centered around the idea of patient autonomy. Most floor lifts are manually operated and brought to patients. Brash worked at ways to install an automated system that would allow patients to summon the lift to their location through the use of a smartphone app. After use, the floor lift would automatically go back to its charging dock.

Stairlifts are Handicare's most popular products. Brash looked at ways to revamp these devices, giving them a completely new look. They also sought out ways to make the at-home installation of customizable stair lifts more efficient by changing drive systems and allowing more optimized configuration. These improvements would cut the time to delivery from up to a month to one week.

Brash presented Handicare with several possible concepts and time frame to implement these changes into their current and upcoming product lines. Brash's work gave Handicare multiple options for new features, added value, and overall better, smarter products.



# Designing Dashboards and Digital Surveying Tools for KenWave Technologies™.

Founded by a team with over 50 years of experience in water and wastewater systems, KenWave Solutions provides non-invasive pipe assessment services using a proprietary acoustic measurement technology. KenWave partnered with Brash's engineering, design, and software experts to build on top of their proprietary technology to create a pipe surveying device, and a corresponding ruggedized tablet equipped with a custom tablet application and step-through UI/UX. Given that many pipe systems operate in remote areas, we created online and offline functionality to record data that can upload to a dashboard via cellular connection when available.

Recording sensor data on the tablet app is just one part of the software services Kenwave needed, our team developed the software behind Kenwave's easy-to-use dashboard, PipeSonik. A cloud-based solution, PipeSonik transforms the raw data collected in the field into meaningful analysis and insights with features that allow for seamless management and oversight like device history with map views, control of real-time kinematic (RTK) accounts, and overall CRM platform functionality.

Every element of our partnership with Kenwave relied on our team's ability to work in tandem and integrate the expertise of our Industrial designers, UI/UX designers, software engineers, mechanical engineers, electrical engineers together to craft a seamless and intuitive user experience across hardware and software alike.

### INDUSTRIAL DESIGN

- Design Research
- Wireframing
- User Experience Design
- User Interface Design
- Brand Strategy and Development
- Design Guidelines
- A/B Testing

### SOFTWARE

- Python
- Embedded on RasPi
- GPS
- Rest API
- Authentication
- Lambda Functions
- Database Integration
- Containerized Analytic Script
- Static File Storage







# Battery-powered wearables for **Intrex™**.

Intrex develops technological solutions for personal, health and medical related care services. Their mission is to enable individuals to age safely by developing innovative solutions to improve the measuring, monitoring, and delivery of care.

Intrex approached Brash to develop a replacement alert system and wearable device for aging individuals. There were numerous requirements to consider, as well as keeping top-of-mind aging individuals and their specific health needs. The result was a complete cloud-based monitoring system with a custom mesh network to allow for accurate location capabilities and alerts. This system works seamlessly with the device, which is easy to use, and fits into the lives of elderly individuals in care facilities.

The Brash and Intrex partnership is ongoing, and together they are developing a whole ecosystem of cohesive health monitoring solutions to improve the lives of the people who use them.

## INDUSTRIAL DESIGN

- Research
- Use Cases
- Concept Generation
- User Analysis
- Material Research
- CMF
- CAD
- Models
- Prototyping
- UI/UX Design
- Testing
- Manufacturing

## ENGINEERING

- System Architecture
- Asset Tracking
- IoT
- PCB Design
- Dashboard
- Mechanical Design
- Enclosure Design
- Firmware Development
- Dev Ops



# Optimizing digital pathology with **Huron™**.

Huron Digital Pathologies develops clinical imaging machines and software for large- and small-scale labs around the globe. Working with Huron, we updated their primary software used by technicians to scan and manipulate slides and samples. We reimagined their Virtual Tissuescope software to deliver a more intuitive and easy to navigate platform with a lighter and more approachable user interface.

The Brash team began the redesign by assessing who would be using the software and understanding their needs. Once the needs of users were established, the development of the system architecture began with wireframing and flow diagrams. With the structure of the software in place, the face of the software began to take shape. We made and tested a number of aesthetic designs to ensure that the icons, features, and menus were all easy to understand and follow. After testing, we refined and tweaked each element in the design. Ultimately, our final, polished version of the software was deployed and is included in all of Huron's machines.

## INDUSTRIAL DESIGN

- User Experience Design
- User Interface Design
- Brand Strategy and Development
- Concept Generation
- User Research
- Testing





# Advanced algorithms and robotics with **B-Temia™**.

B-Temia develops, manufactures, and commercializes cutting-edge biorobotic technology for human augmentation systems. Their wearable Dermoskeleton™ technology provides improved mobility, autonomy, and strength to users for military and civilian applications. The Dermoskeleton™ technology incorporates an array of sensors and advanced artificial intelligence software for sensing mobility intentions and generating synchronized movements between the user and the device.

After the hardware platform was established, Brash stepped in to build upon the existing mobility sensing and motion synchronization algorithms. We developed custom algorithms that could readily be integrated into the existing hardware and software architecture. Brash's developments allowed the Dermoskeleton™ to more accurately deliver assistance to the user during critical activities such as standing, crouching, pulling, or lifting heavy loads.

Brash lives on the cutting-edge of technology, especially with advanced robotics. We partner with a number of different firms, corporations and entrepreneurs with their robotic projects, always on the forefront to new technologies and research.

## ENGINEERING

Robotics  
Advanced Algorithms  
Embedded Programming





## Ensuring proper dosage with **BreathSuite™**.

BreathSuite, a startup out of Newfoundland, founded with the mission to increase proper use of inhalers-- as about 94% of inhalers are used incorrectly. We teamed up with the budding entrepreneurs at BreatheSuite to create an inhaler add-on that helps patients use their inhalers correctly. The add-on specifically focuses on developing a proper breathing technique and attaches to all different types of Metered Dose Inhalers (MDI).

Partnering with BreatheSuite to create an effective medical device required a multi-pronged approach. In addition to designing the firmware, hardware and PCB to ensure proper function, improving battery life and developing advanced algorithms to enhance the machine's learning capabilities, our team also developed a device that needed to comply with medical device standards and is compact enough to carry around for everyday use.

BreathSuite's add-on also comes with enhanced usability and personalization through a paired mobile app that allows users to measure and track real-time usage and ongoing adherence of inhalers while improving technique. The mobile platform allows users, doctors and caregivers to track usage and easily integrates with electronic medical records.

### INDUSTRIAL DESIGN

- User Experience Design
- Interface Design
- Brand Strategy
- Concept Generation
- User Research
- Testing
- Manufacturing
- Parts sourcing

### ENGINEERING

- System Architecture
- Asset Tracking
- IoT
- PCB Design
- Dashboard
- Mechanical Design
- Enclosure Design
- Firmware Development
- Dev Ops





# Integrated communication with **Mitel Networks™**.

Mitel is a global corporation and leader in telecommunications, specialising in B2B solutions. They power over two billion business connections with cloud-based communications and applications designed specifically with enterprise in mind.

Brash developed multiple technologies, digital products and hardware for Mitel. This includes designing MiCollab— a unified communication platform and tool for messaging, mobility, web and video conferencing collaboration— and MiVoice, an integrated phone system and collaboration software. We conducted rigorous research and testing to ensure the user experience was seamless for both products and their multifunctions.

We also created and established Mitel's internal design and branding guidelines, as well as offer our client post project support. These guidelines ensure consistency, quality and a recognisable and unique aesthetic that customers have come to expect from Mitel.

## INDUSTRIAL DESIGN

- Generation
- User Research
- Testing
- UX Design
- UI Design
- Brand Strategy and Development
- Prototyping
- Model Making





# Award-winning design products for Warehouse.

Warehouse is a Canadian lifestyle and housewares brand that specialises in using natural and unique materials to make simple, modern designs. Brash began our collaboration with Warehouse by developing brand guidelines for their company, including full visual identity and design standards.

An early product concept, Brash designed Warehouse's award-winning Maple Set knives, picking up international recognition with the Red Dot Design Award for Best of the Best, capturing global attention for its lux and sleek design.

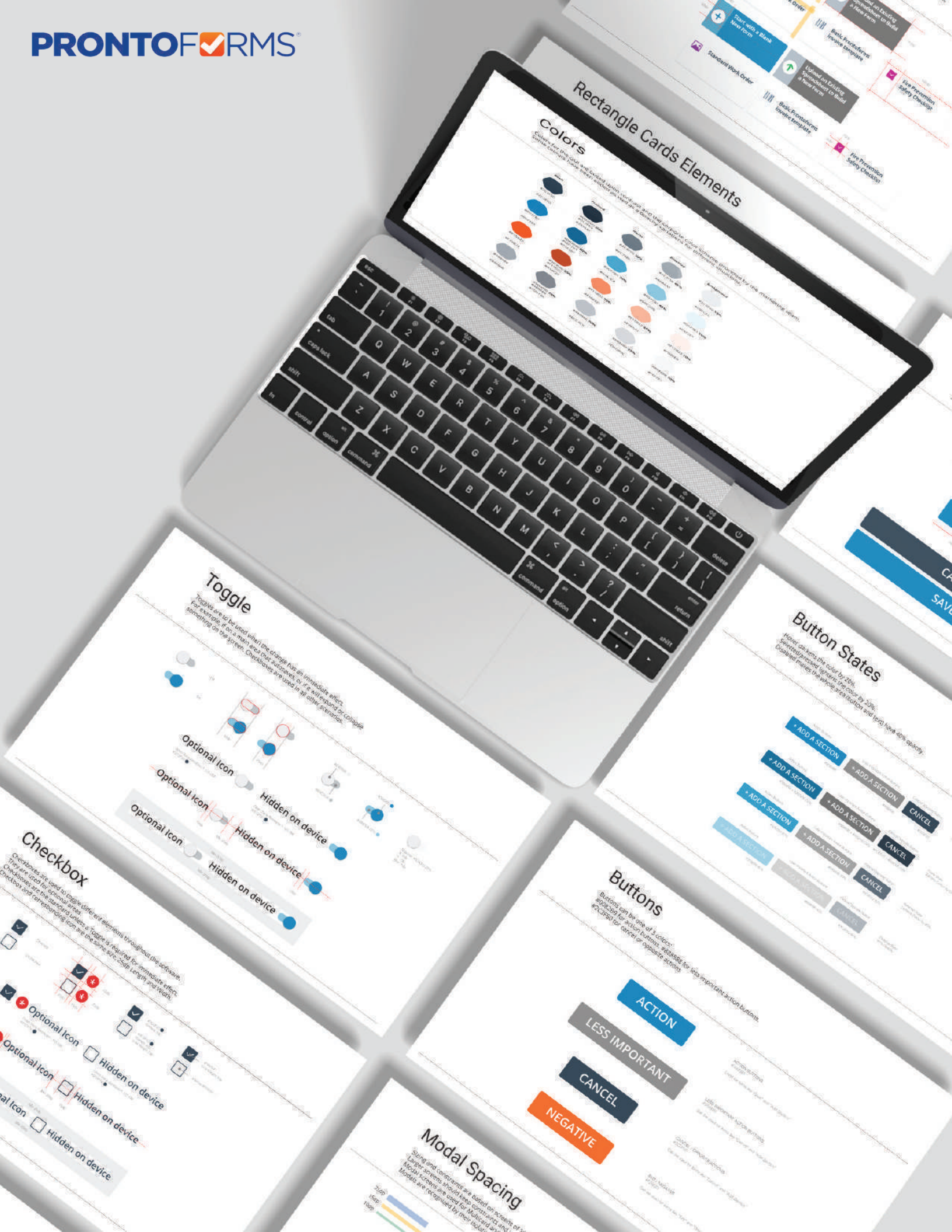
Our work continued with Warehouse to include another half dozen products using an array of our services including, concepts, renders, material sourcing, manufacturing, packaging, and photography for promotional materials.

## INDUSTRIAL DESIGN

- Brand Strategy and Development
- Concept Generation
- User Research
- Testing
- Prototyping
- Material Sourcing
- Model Making
- Manufacturing







# Redefining Prontoform™'s design guidelines.

Brash collaborated with Prontoforms to define the user experience and the user interface guidelines. As a SaaS (software as a service) company, Prontoforms allows people to develop forms, questionnaires and surveys digitally. Their software is used by late construction firms, hospitals, and a wide variety of Fortune 500 companies including Unilever, and the American Automobile Association (AAA).

Brash collaborated with ProntoForm –the global leader in mobile forms– to develop a user experience standard for their designers and developers. Together, we established a UI and UX standard that includes everything from logo treatments and colours, to button size and spacing.

We continued to work alongside ProntoForms to further refine existing visual design aspects to create cohesive and seamless output for their form developers.

## INDUSTRIAL DESIGN

- User Experience Design
- Interface Design
- Brand Strategy and Development
- Concept Generation
- Research
- Testing





# Revolutionizing rehab with **GaitTronics™**.

GaitTronics Inc. is an innovative rehabilitation robotics company that develops products to enable safe and effective rehabilitation therapy for patients. Together, we designed a unique robotics powered gait trainer that empowers patients to walk and participate in physical therapy immediately after an acute illness or surgery.

Brash's involvement with SoloWalk started at the very beginning, and resulted in a complete turnkey solution. The project was a unique challenge in not only advanced human-robot interactions, but also in designing a look, shape and feel that addressed concerns about patient safety. All enclosure designs had to meet all requirements for medical devices and safety.

The advanced algorithm, novel haptics, and human-robot interactions within SoloWalk move with the user to support all their movements while they walk. The patient's safety is guaranteed by a proprietary intelligent control system that automatically prevents falls. For caregivers, SoloWalk automates the process of lifting patients out of bed, increases mobilization, prevents injuries and reduces care costs.

SoloWalk is commercially available and is one of Brash's most challenging and advanced products to date. GaitTronics continues to develop innovative rehabilitation technologies that improve patient care, minimize staff workload, and reduce patient care costs.

## INDUSTRIAL DESIGN

- User Experience Design
- User Interface Design
- Enclosure Design
- Brand Strategy
- User Research
- Ergonomics
- Manufacture Sourcing
- Parts Sourcing

## ENGINEERING

- System Architecture
- Asset Tracking
- IoT
- PCB Design
- Dashboard
- Mechanical Design
- Firmware Development
- Dev Ops





# Safely tracking drones and aerial vehicles with AVSS™.

Aerial Vehicle Safety Solutions, Inc. provides reliable safety and advanced management in Unmanned Aerial Vehicles (UAV) safety. Working in consultation with AVSS, our team developed a fully integrated parachute safety system to match the requirements of their existing vehicles and mandatory safety requirements.

Working within UAV Industry standards, our team created a system with integrated PCB, firmware, and electronics designs with a connected recovery system. These systems are equipped with internal sensors to analyse and track flights in real-time, as well as deploy the parachute if necessary to avoid impacting potential bystanders.

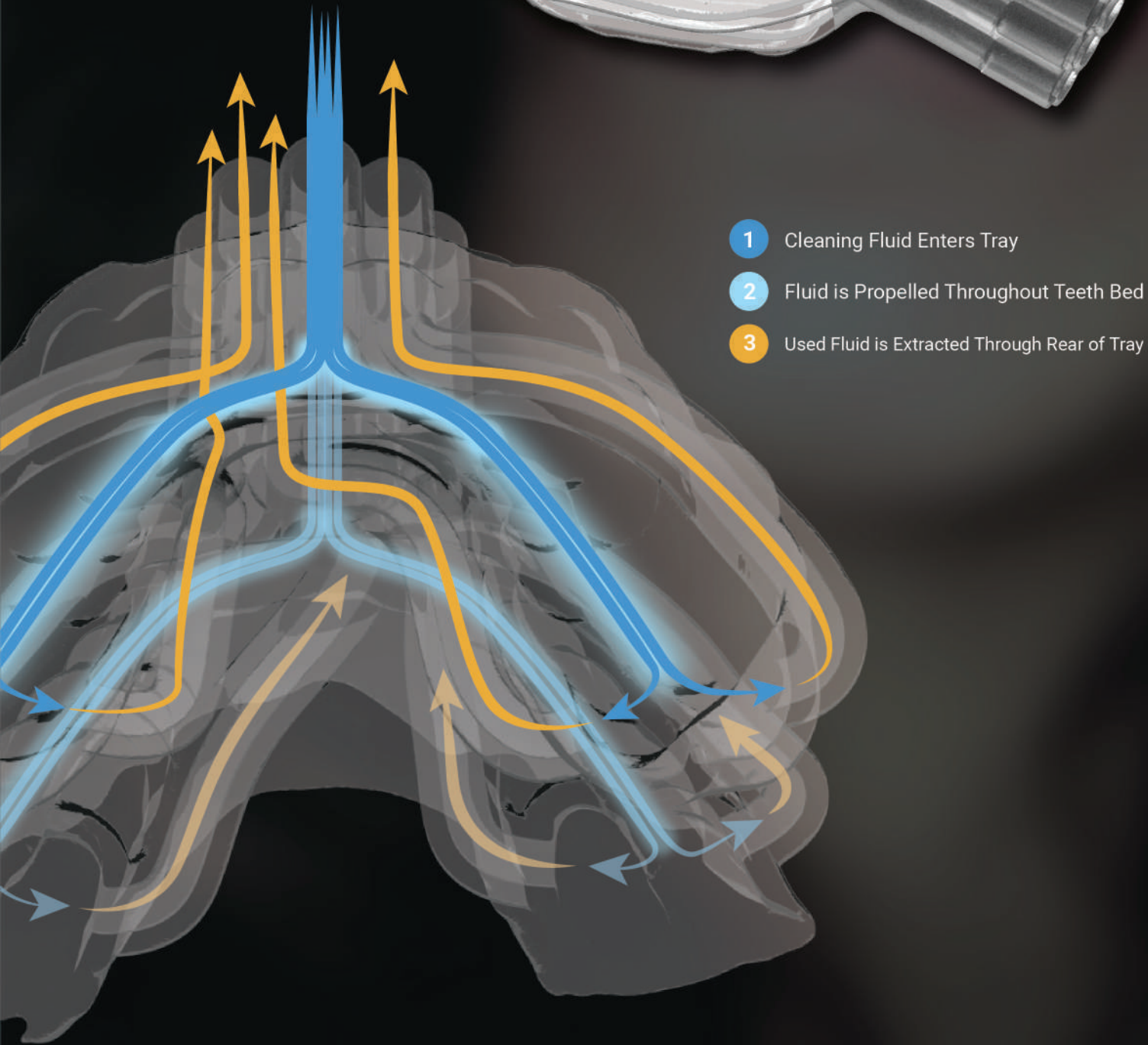
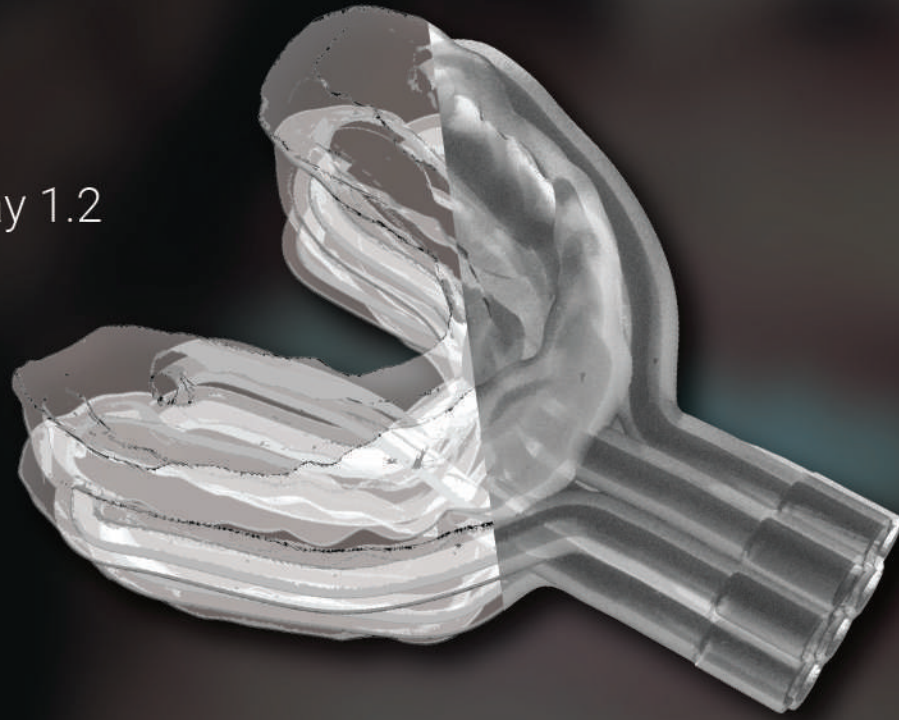
We also built in modules that enable satellite communication, location, altitude, speed and a warning buzzer in the event of a crash. These improvements were designed to work smoothly with existing products and prototypes currently undergoing testing. <https://www.avss.co/>

## ENGINEERING

- System Architecture
- Asset Tracking
- IoT
- PCB Design
- Dashboard
- Mechanical Design
- Enclosure Design
- Firmware Development
- Dev Ops



Cleaning Tray 1.2



## PlaqueZero™ and teeth cleaning of the future.

Plaquezero wanted Brash to create an alpha prototype of their patented Plaque Zero oral irrigation Pump Unit. The dental system is designed to clean teeth by removing dental biofilm through a custom fitting tray embedded with ports. These ports are connected to lines that run a cleaning fluid through the trays using a vacuum to irrigate the teeth. The purpose of this irrigation is to clean the teeth, dissolve dental biofilm, and treat and prevent gum disease.

Brash's team was tasked with creating a prototype of the pump unit. There were several challenges to overcome, such as building a pump that delivered adequate suction force to the tray, but also allowing building in a way to vent the waste fluid. There were also design challenges in making an aesthetically pleasing, ergonomic pump unit that was small enough to fit on a bathroom counter.

### ENGINEERING

- PCB Design
- Component Selection
- Drive Mechanism
- Electronic Design to accommodate and features of operation
- Material Research
- Mechanical Design
- Mechanical Assembly
- Prototyping
- Manufacturing Support

### INDUSTRIAL DESIGN

- Concept Development
- Casing Concepts
- Sleeve Design
- Materials Research
- CMF
- Prototyping





# Keeping things hot while looking cool with the **Boge™ Tumbler**.

Boge contracted Brash to develop a universal tumbler that could also function as a locking thermos. Boge envisioned a locking lid with an easy-pour top, an infuser, and a double-walled, vacuum-seal thermal canister to keep beverages hot or cold— all in a convenient size for on the go.

We went to work designing and engineering a product that would not only look great but would reimagine the way a thermos is used. Our design team developed an interior-locking flavour canister, which can hold teas, fruits, herbs, ice to infuse in your favourite beverages. The click-top spout is another great feature of the thermos, allowing for quick pouring without the mess.

Branding and the colours, materials and finishes (CMF), were also extremely important in the development of the Boge Tumbler. The product is available in a wide variety of colours and sizes to fit any need.

## INDUSTRIAL DESIGN

- Concept Development
- User Experience
- Usability and Ergonomics
- Brand Development
- Colours Materials and Finishes
- Prototyping and Model Making
- Product Testing



# Brash Product Development Inc.

## Canada

168 Dalhousie St  
Ottawa, Ontario  
Canada  
K1N 7C4

## United States

747N Milwaukee Blv  
Suite 201  
Libertyville, Illinois  
USA  
60048

[hello@brashinc.com](mailto:hello@brashinc.com)

1.613.816.6211

[brashinc.com](http://brashinc.com)

