



Scott Melanson
2016 Portfolio of Work

Content & Projects



Milestone AV - Sanus Product Line Development



Wagner - Sidekick



QFO Labs - Quad Copter and MimiX System



Kick Like a Girl - Product Design and Branding



Galil Medical - Cryoablation Device and UI Design



Arctic Cat - Product Design and Engineering



Additional Works



Sketchbook

About Me

Milestone AV

Sanus Product Line Development



Objectives and Challenges

- Evaluate the Consumer Base and their Desires when Mounting Flat Screen Televisions
- Define and Refine a New Brand Language for all Components
- Work with Engineers to Develop Functioning and Robust Designs
- Define Production-Ready CAD, Color, Material, and Finish Sheets

February - October 2012; became the Sanus ULF & UMF Product Lines
Role: Industrial Designer, to leading Design Direction & Final CAD

Project Outline

Kick Off Objectives and Parameters

SANUS

Marketplace & Customer Analysis

Hands on Research



- Develop a Sanus Vision Mount product platform strategy that strengthens and differentiates the brand's market leadership.
- The design language to be developed must communicate Sanus' strength, dependability, and reliability to the consumer.
- Concepts developed need to fall within guidelines of Milestone's manufacturing criteria and implemented for 3+ SKUs of product.
- Assist in developing easier installation methods and practices.

The team started going to Best Buy, one of their major partners (Milestone AU = Rocketfish), to see how their products are displayed and marketed. Most TV Mounts were stacked as an after thought, and chosen without much care. In addition, meetings and surveys were conducted with customers and installers. We found that the top priority was Ease of Installation, followed by the Safety & Security of the Mount (for parents) and Convincing the Customer they Need the Product

After our initial analysis, the team installed 3 different mounts to cover the 3 SKU categories of Mounts. Notes are as follows:

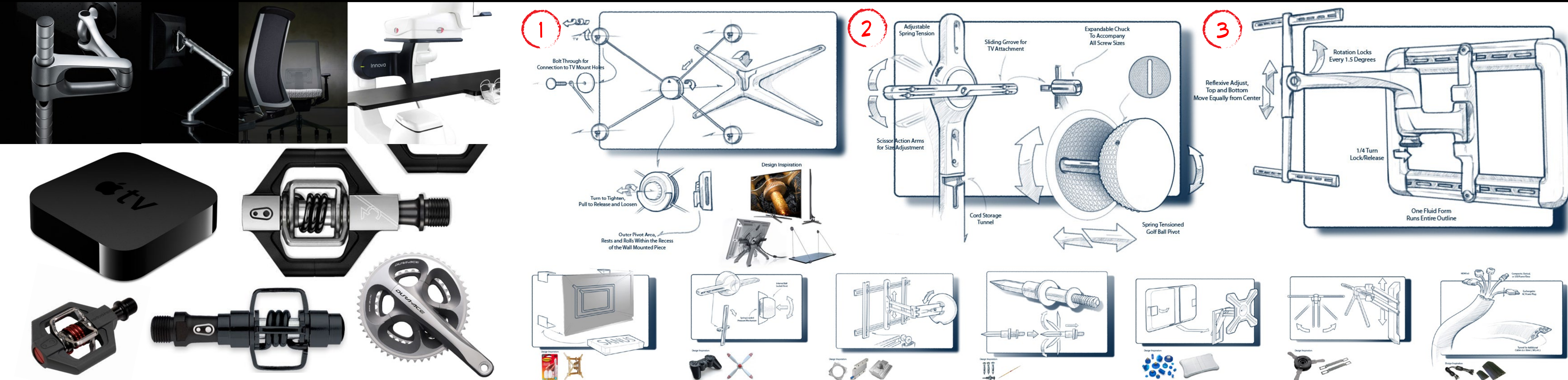
- There's too much wasted hardware after install. (80+ Pieces)
- Instructions were generic, didn't match the mount we had.
- Leveling/Mounting the frame was hard, but lifting the TV, worse.
- A lot more measurement than expected for the install.

Initial Ideation

"Precision" Branding Definition

SANUS®

Round 1 of Concept Sketches



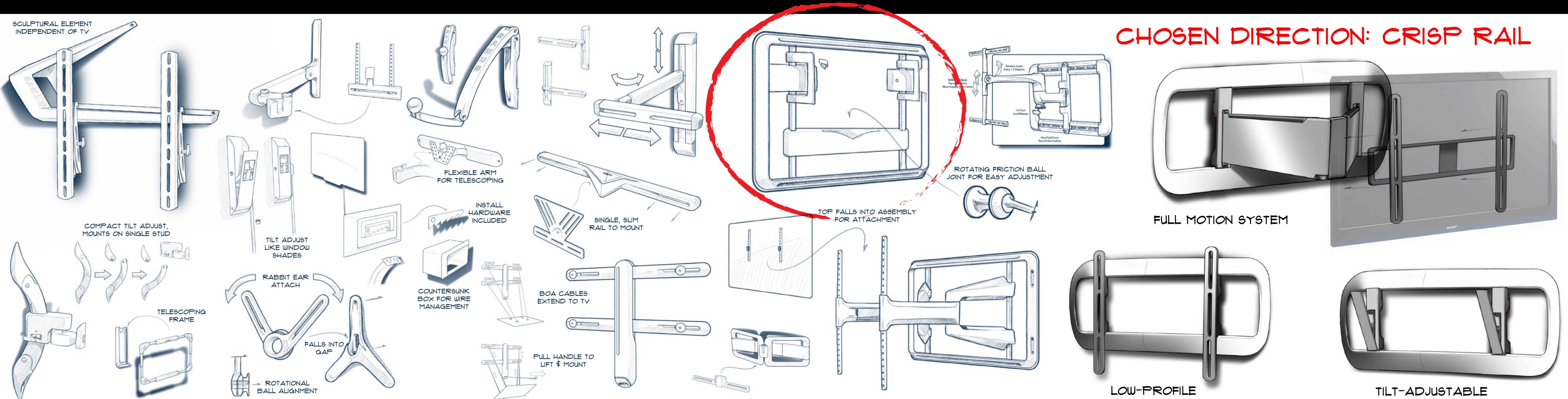
In addition to our research, we focused on developing a new brand language that would elevate Milestone's perception in the marketplace. The design language developed would become known as "Precision", focused on the quality of the line and surface tension to match the prowess of their build quality and function. Inspiration came from High-End Bike Components, other Hi-Fi Equipment, along with Premium-Level Medical and Office Equipment.

In the initial round of development, we were actively exploring concepts for every aspect of the company's offerings. Most of the initial exploration focused on the ease of adjustment and installation, as well as lowering the amount of wasted hardware. These 10 concepts were a part of a series of 35 that were presented, with the top 3 being chosen for further development in form and function.

Revised Concepts

Focused Work toward Final Proposal

SANUS

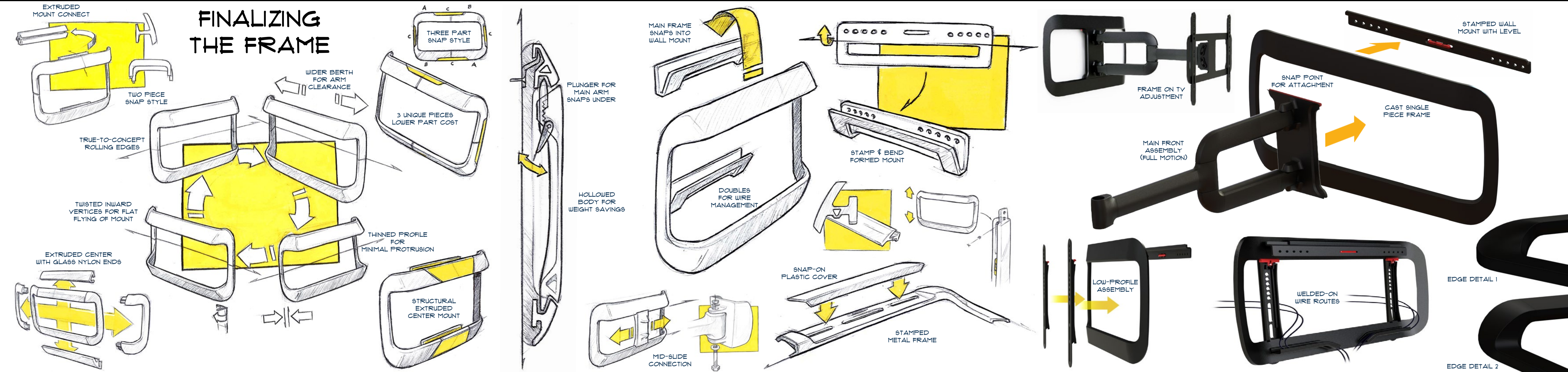


After a few more rounds of quick ideation, the team and I developed over 60 other concepts focusing on form language, simplicity, and ease of install. After developing these, we narrowed things down to 3 Design Languages: Crisp Rail, Solid Geometric, and Smooth Linear. After a preview of the 3 SKUs in each family, it was decided that Crisp Rail was the language that would define the Sanus brand moving forward.

Form Refinement

Finalizing Design & CAD Development

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After our chosen direction was set, our team needed to focus on refining the designs for manufacturing at Milestone's Chinese factories. We started by breaking down each piece of the assembly, making it as easily manufactured and assembled as possible while retaining its visual character. This also meant re-working the snap-in attachment and making it production ready.

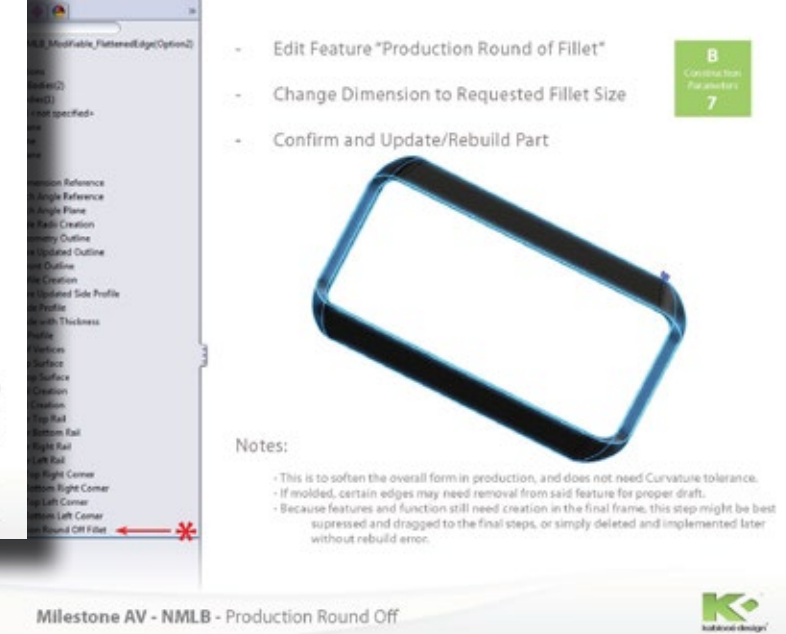
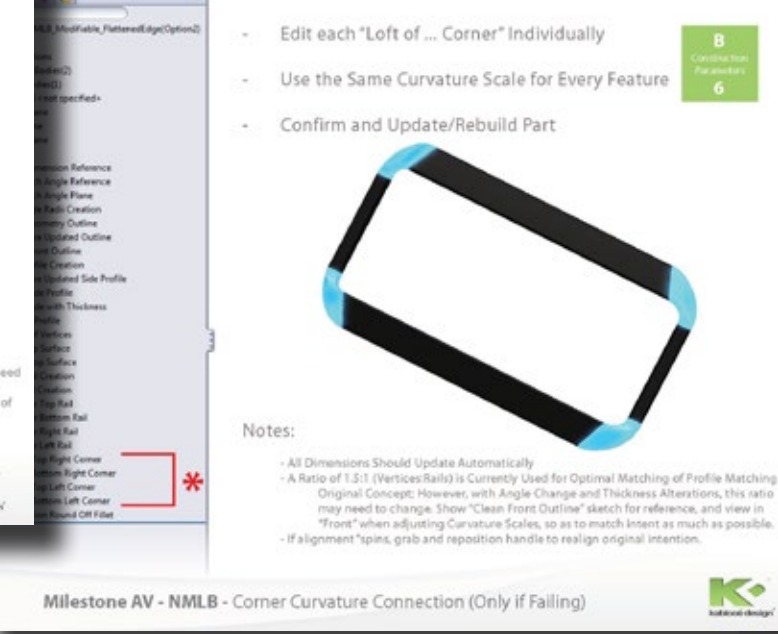
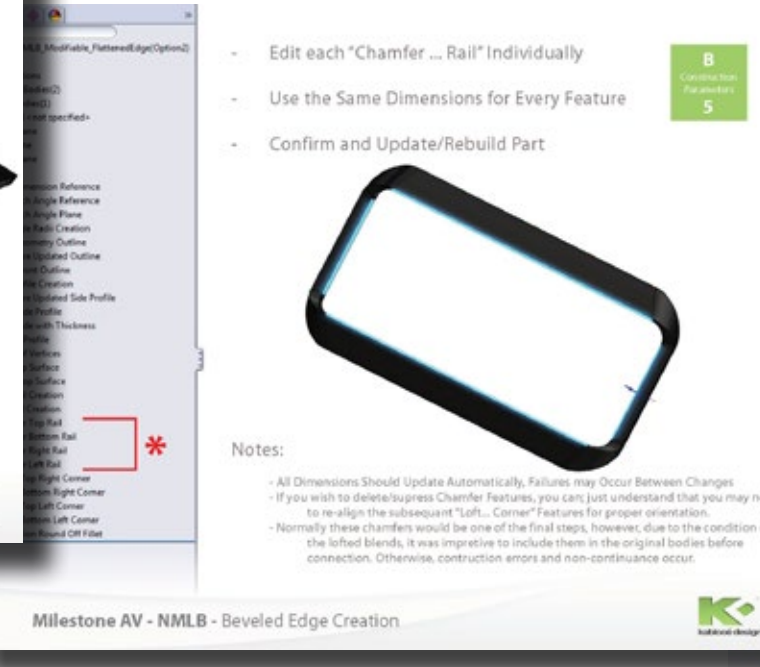
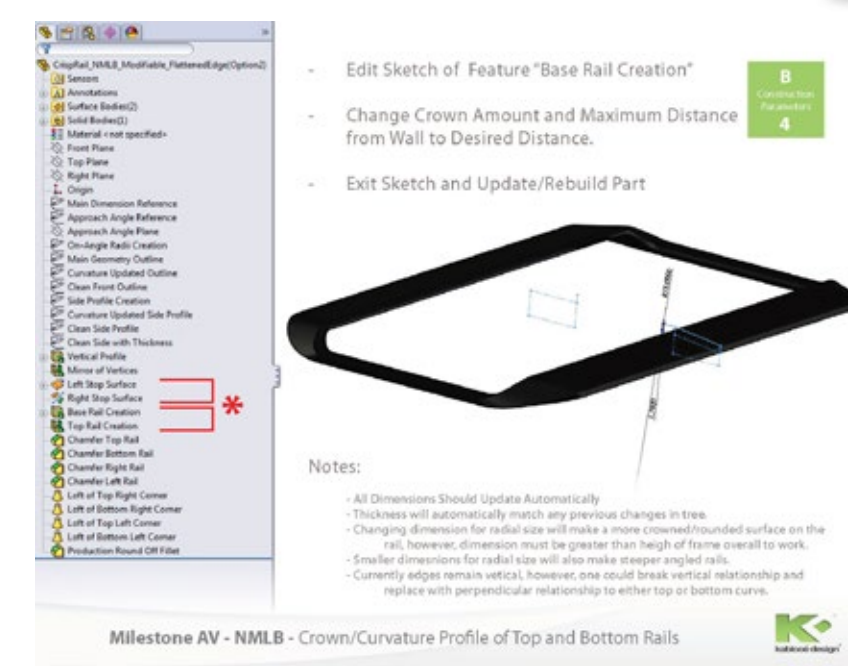
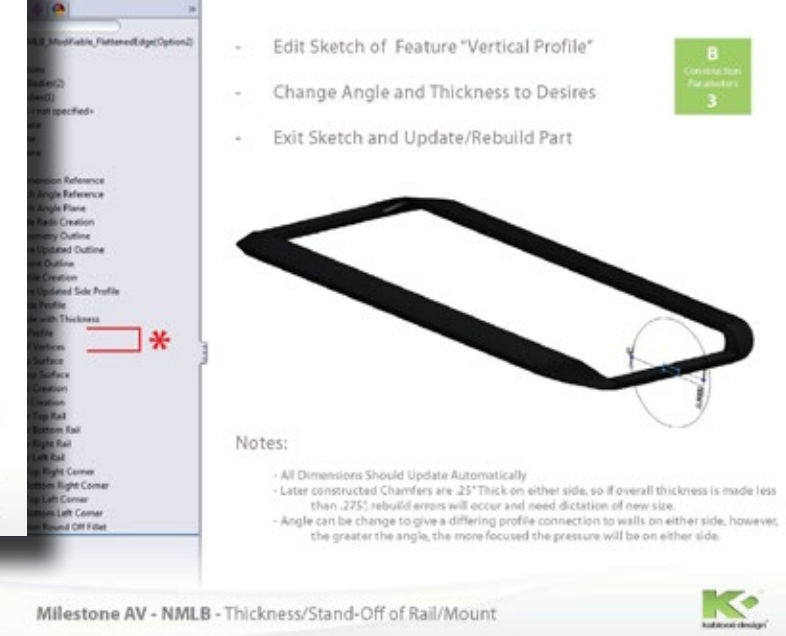
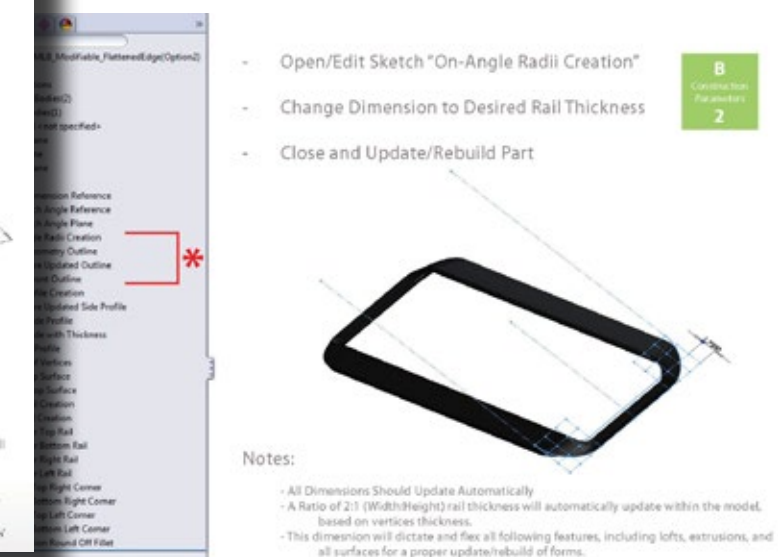
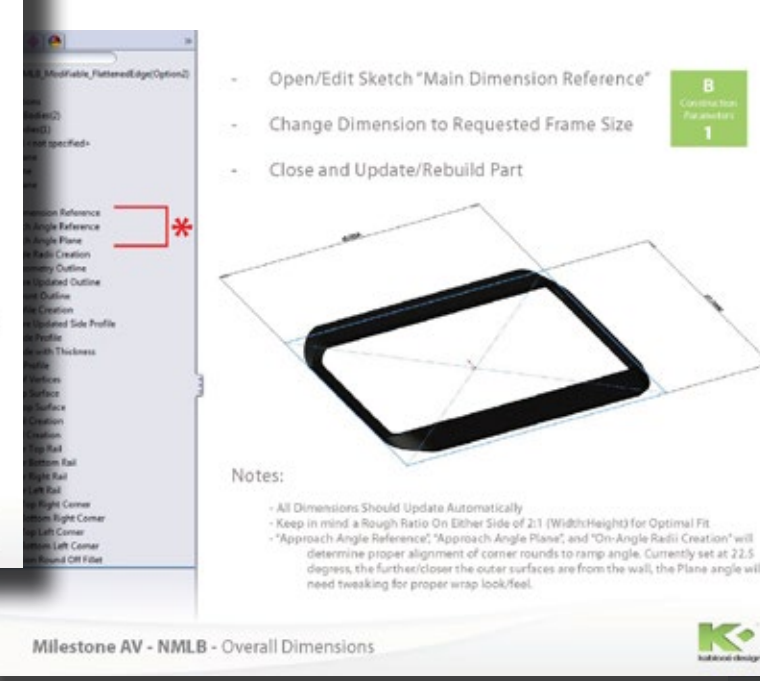
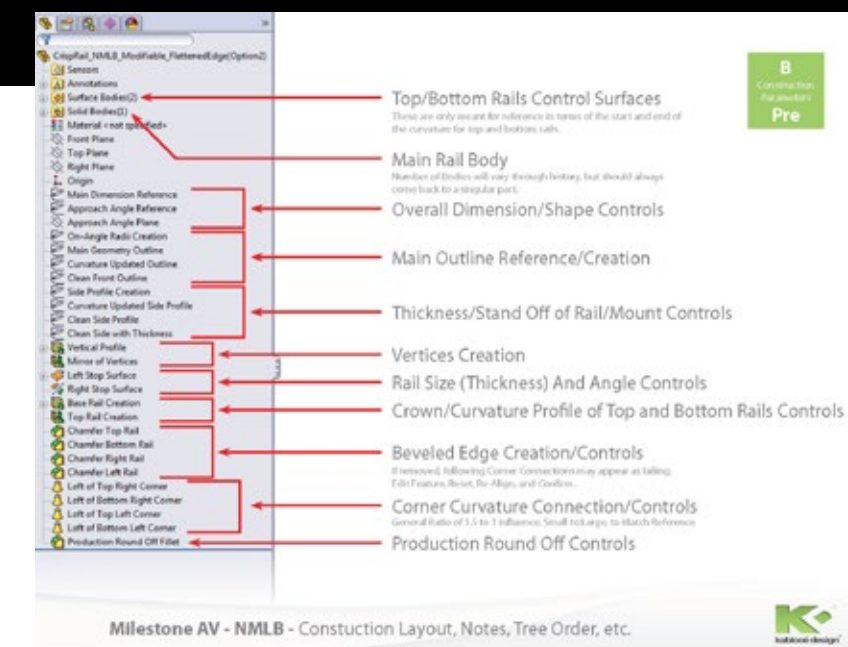
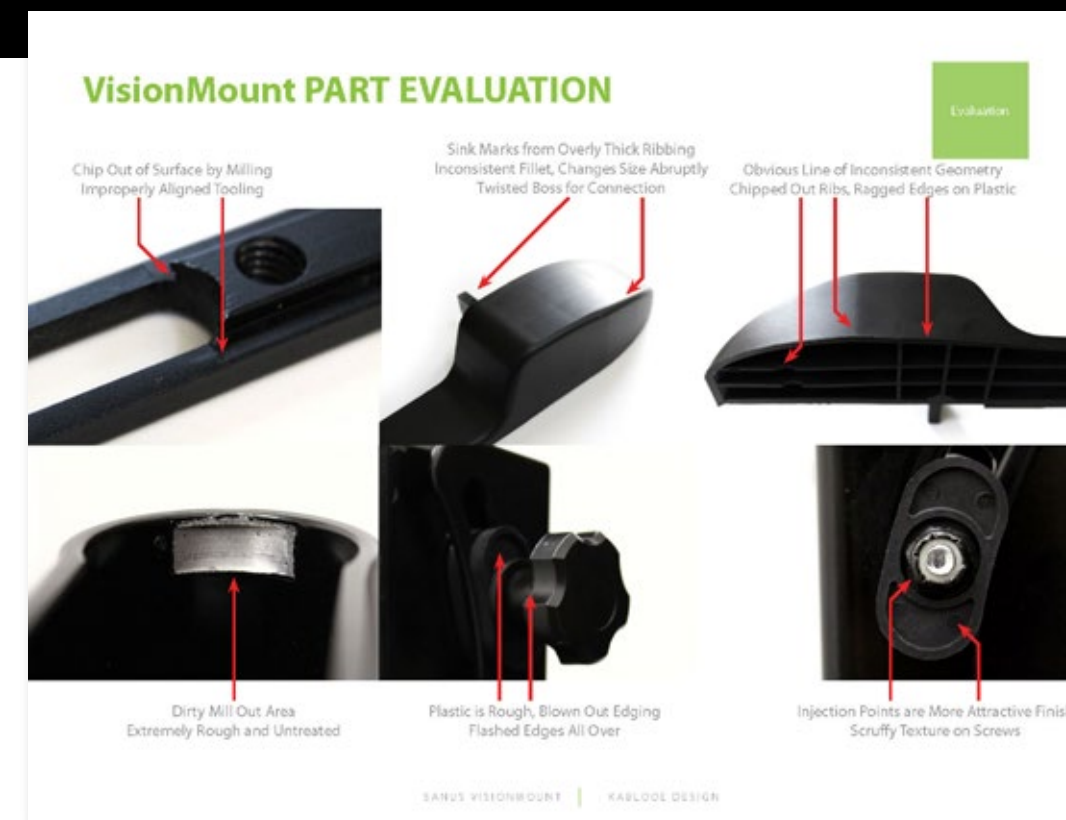
The team and I then jumped into creating Alpha Model ready CAD, and opened up the conversation as to the treatment of the end corners and their transitions between one another. Right before production of the models, it was changed to a twin arm system for the flag-ship Full Motion, although the single arm still made it to production.

At the same time, we were outlining visual characteristics and processes for their new, proprietary App for Installation Assistance.

Prototype & CAD

Analysis and Revisions for Production

SANUS



Most parts in the Alpha Model's construction were tweaked, upon consultation with the factory. However, even these improved performance over current product, with installation being easier and faster (by about 10 minutes). Even with 250 lbs. of force on top of the TV's weight, it held solid. Only small assembly details and the designs flexibility for additional SKUs needed attention, along with the finalization of the finish and materials for product.

In developing the Final Forms, we developed a platform and process for the frame's construction to let the form evolve to ever changing desires of the end customer in size and coverage. This was accomplished in the development of a SolidWorks file that allows Milestone's Engineers to alter the dimensions of the frame in any way, and retain it's G3 Curvature level of Finish; as well as mate to every other part in the assembly within their parameters.

CMF & Finalization

Production Spec. & Export for Market



Metals



Painted

Pantone 426C, with Satin Finish

Powdercoat

Pantone 426C, with Satin Finish

Plastics



Hard Durometer Gloss

Pantone 419C, with MT11001 Gloss, SPI-C1

Hard Durometer Satin

Pantone 419C, with MT11000 Satin Texture

Soft Durometer Satin

Pantone 419C, with MT11500 Diffuse Texture

BRANDING IDENTIFICATION OPTIONS



Debossed Logo

Done in Part, No Post Process Necessary



Debossed Logo, with Paint/Enamel Fill

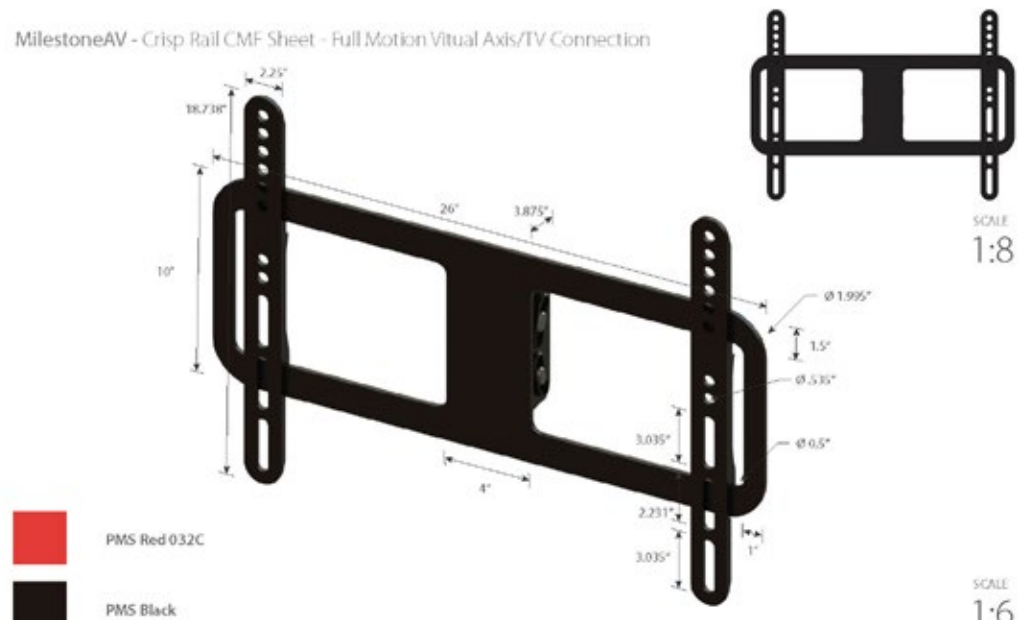
Some Post Process Necessary, But Greater Visibility



Selective Texturing

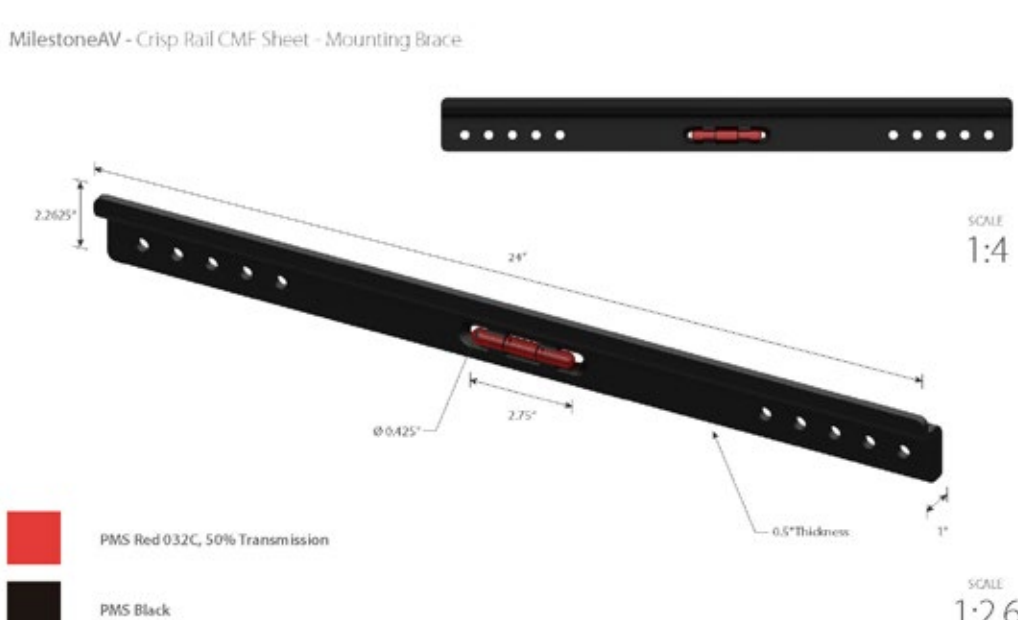
Done in Part, No Post Process Necessary

MilestoneAV - Crisp Rail CMF Sheet - Full Motion Virtual Axis/TV Connection



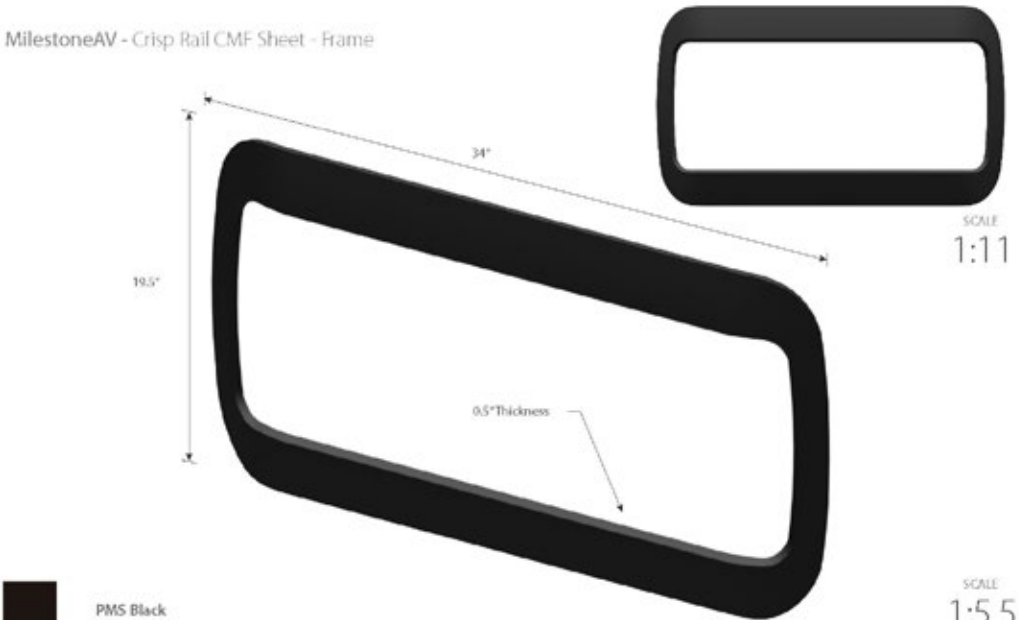
DATE	DOC NAME	NOTES
April 10th, 2012	Milestone_AVColorCMF_0409012.d	All Surfaces Covered the Same
DESIGNED BY	DESIGNED BY	DESIGNED BY
SA, WA, and EA	For Engineering Spec, Both Metal and Transparent Plastic	For Engineering Spec, Both Metal and Transparent Plastic
FINISH	FINISH	FINISH
Satin, M1101 PMS Black Semi-Gloss, PMS Red 032C	Satin, M1101 PMS Black Semi-Gloss, PMS Red 032C	Satin, M1101 PMS Black Semi-Gloss, PMS Red 032C

MilestoneAV - Crisp Rail CMF Sheet - Mounting Brace



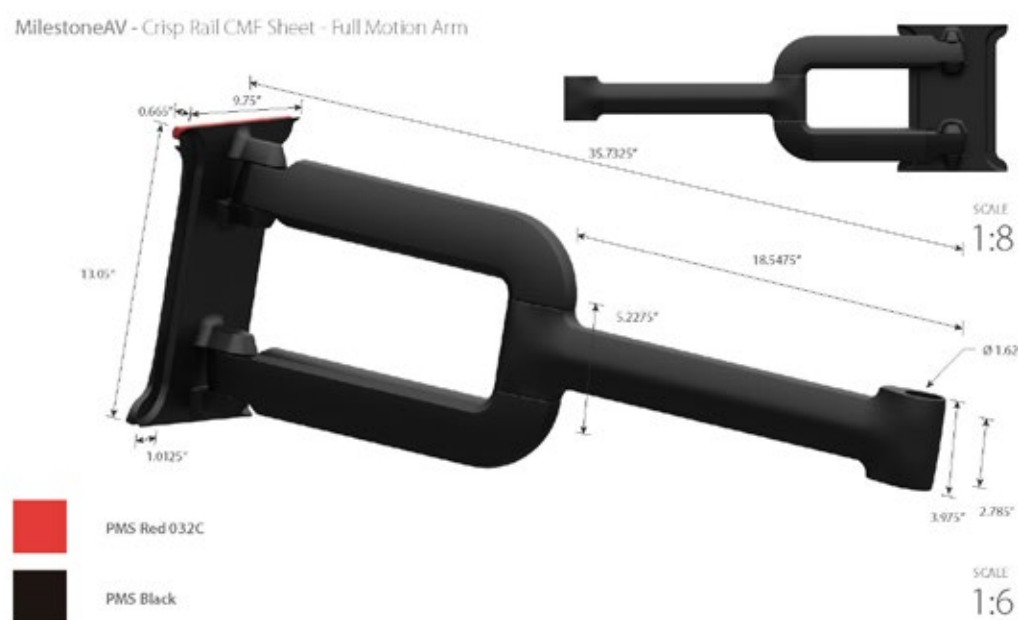
DATE	DOC NAME	NOTES
April 10th, 2012	Milestone_AVColorCMF_0409012.d	All Surfaces Covered the Same
DESIGNED BY	DESIGNED BY	DESIGNED BY
SA, WA, and EA	For Engineering Spec, Both Metal and Transparent Plastic	For Engineering Spec, Both Metal and Transparent Plastic
FINISH	FINISH	FINISH
Satin, M1101 PMS Black Semi-Gloss, PMS Red 032C, 50% Transmission	Satin, M1101 PMS Black Semi-Gloss, PMS Red 032C, 50% Transmission	Satin, M1101 PMS Black Semi-Gloss, PMS Red 032C, 50% Transmission

MilestoneAV - Crisp Rail CMF Sheet - Frame



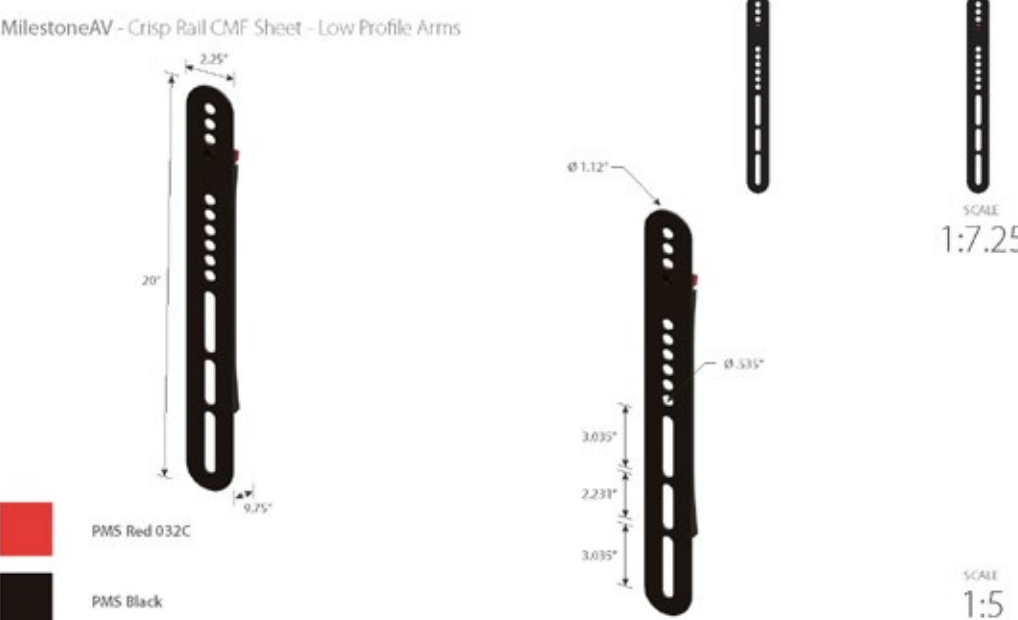
DATE	DOC NAME	NOTES
April 10th, 2012	Milestone_AVColorCMF_0409012.d	All Surfaces Covered the Same
DESIGNED BY	DESIGNED BY	DESIGNED BY
SA, WA, and EA	For Engineering Spec, Both Metal and Transparent Plastic	For Engineering Spec, Both Metal and Transparent Plastic
FINISH	FINISH	FINISH
Satin, M1101 PMS Black	Satin, M1101 PMS Black	Satin, M1101 PMS Black

MilestoneAV - Crisp Rail CMF Sheet - Full Motion Arm



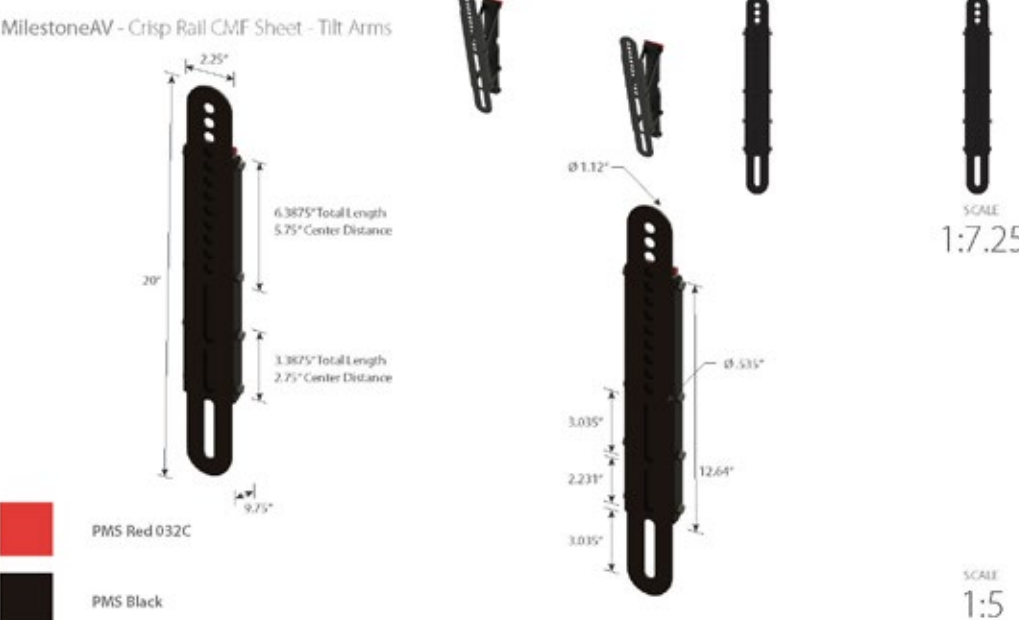
DATE	DOC NAME	NOTES
April 10th, 2012	Milestone_AVColorCMF_0409012.d	All Surfaces Covered the Same
DESIGNED BY	DESIGNED BY	DESIGNED BY
SA, WA, and EA	For Engineering Spec, Both Metal and Transparent Plastic	For Engineering Spec, Both Metal and Transparent Plastic
FINISH	FINISH	FINISH
Satin, M1101 PMS Black Semi-Gloss, PMS Red 032C	Satin, M1101 PMS Black Semi-Gloss, PMS Red 032C	Satin, M1101 PMS Black Semi-Gloss, PMS Red 032C

MilestoneAV - Crisp Rail CMF Sheet - Low Profile Arms



DATE	DOC NAME	NOTES
April 10th, 2012	Milestone_AVColorCMF_0409012.d	All Surfaces Covered the Same
DESIGNED BY	DESIGNED BY	DESIGNED BY
SA, WA, and EA	For Engineering Spec, Both Metal and Transparent Plastic	For Engineering Spec, Both Metal and Transparent Plastic
FINISH	FINISH	FINISH
Satin, M1101	Satin, M1101	Satin, M1101

MilestoneAV - Crisp Rail CMF Sheet - Tilt Arms



DATE	DOC NAME	NOTES
April 10th, 2012	Milestone_AVColorCMF_0409012.d	All Surfaces Covered the Same
DESIGNED BY	DESIGNED BY	DESIGNED BY
SA, WA, and EA	For Engineering Spec, Both Metal and Transparent Plastic	For Engineering Spec, Both Metal and Transparent Plastic
FINISH	FINISH	FINISH
Satin, M1101 PMS Black Semi-Gloss, PMS Red 032C	Satin, M1101 PMS Black Semi-Gloss, PMS Red 032C	Satin, M1101 PMS Black Semi-Gloss, PMS Red 032C

Above are just some of the packages of documents and reference imagery that we forwarded along with our CAD for production; including suggested hardware, materials, types of logo treatments, etc. These were used as reference and official documentation for production and floor verification during the manufacture of the Vision Mount systems.

Final Product

Public Success & Award Winning

SANUS



After the launch of the product and app, Milestone's brand saw an immediate 5% spike in sales, the Vision Line received numerous awards for its App and Mounts alike. The visual language and flexible architecture developed went from 3 SKUs originally to well over 15, and still are their #1 sellers to date. Additionally, all mounts are rated at 4.3 Stars or Higher on Amazon, resonating with their customer base in ease of install, quality, and aesthetics.

amazon ★★★★★

Average over 15+ Products and 2,500+ Reviews

"Best TV mount you can buy!" - JD Randolph

"The product was awesome... Installed on the wall with no problems." - Sandra Manning

"This thing is Killer! Love it!" - Joe J. Czarnecki

Wagner

SideKick - Portable Painting System



Objectives and Challenges

- Design and Engineer solutions for Wagner's line of Direct Feed Pumps, for both Commercial and Industrial Markets.
- Match the aesthetic of the FLEXio line of Sprayers, developed by the German Team, for sales in the US and Europe.
- Create a Product that moves with the Paint Can seamlessly.

January - October 2012; became Wagner SideKick, FLEXio System Base, and would be ProCoat Series Replacement
Role: Industrial Designer, to leading Design Direction & Concept CAD Development for Export to Wagner International

Commercial Grade

Kick Off Objectives and Parameters

Marketplace Analysis

Design Language - "Rugged Precision"



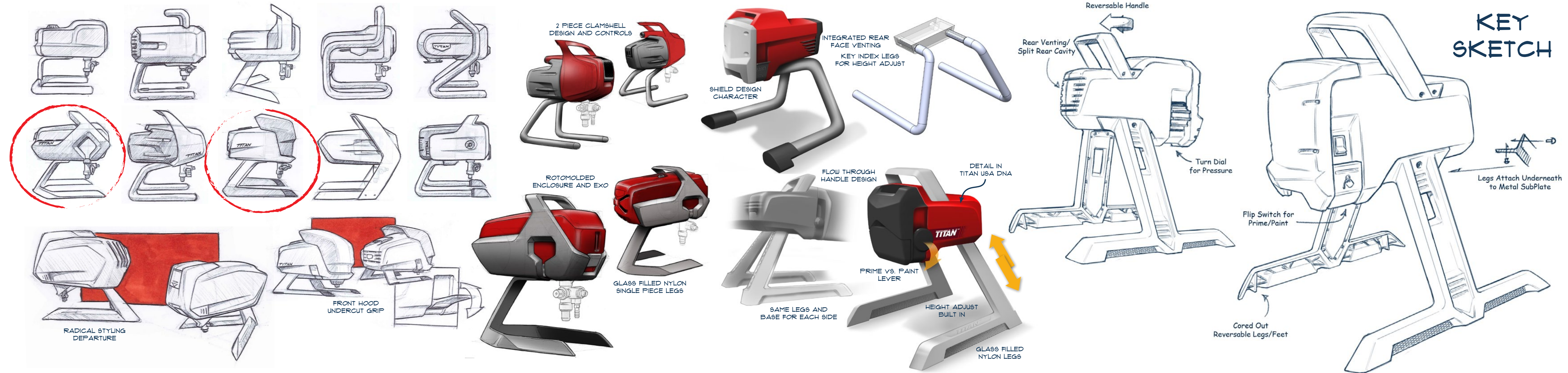
- Develop a Professional Grade Product that Contractor's will use on a daily basis for their Direct Feed-Airless Line of Product.
- Update the Titan and Wagner Brand Language
- Design the housing to be manufactured inexpensively, while retaining better overall control of flow rate.
- Design for Commercial Grade Applications and Abuse.
- Design for use on Short and Tall Legs, as well as on a Cart.

Wagner and Titan brands are some of the most trusted names in the commercial business, but were finding themselves losing market share to the lower-priced alternatives. These machines need to run cool for long hours at a time and stand up to constant coverage in paint and primer. Heights need to be easily adjusted for US and European, in exchanging leg heights, as well as use a similar system for mounting on a cart for high-end contractors.

For all of the products, we wanted to blend the rugged and chunky designs of what would be found in other equipment of the work site with the newer, sophisticated surfacing of the "professional grade" equipment of the smart-phone era. This led use to the use of newer concept vehicles like the GMC Granite and G-Zone Phone, creating a language of Rugged Precision.

Initial Ideation 1

Commercial Grade Concept Sketches



When approaching the designs for Commercial-Grade Equipment, we were constantly revising concepts to ensure as little in-flow of paint and clogging agents while keeping ventilation optimal for the rear mounted motor. After several round and reviews, we arrived at the above concept, utilizing the Shield on the front fascia as a new design signature for Titan and Wagner.

CAD & Finalization

Definition of Design and Concept CAD

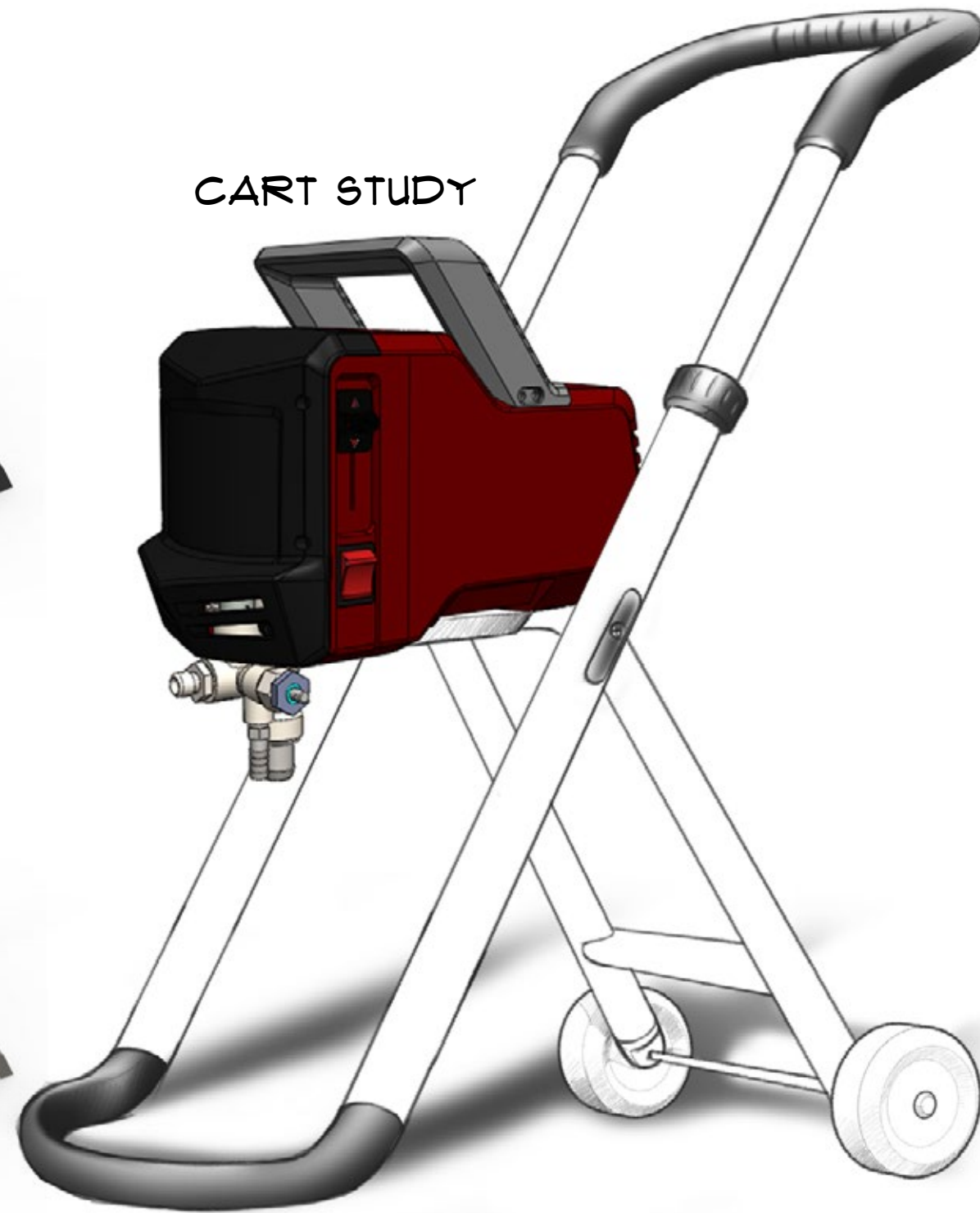
WAGNER COLOR STUDY



TITAN COLOR STUDY



CART STUDY



During our Development of Concept and Production-Level CAD, several changes to the internal components ended up eliminating the front coverage doors, swapping the dial for a slider in pressure adjustment, as well as sharpening up some of the character lines to allow for proper clearance. At the same time, we were embarking on more feature driven, less expensively manufactured pusher carts for the US Commercial Market.

The above renders represent the production-ready CAD that was to become the replacement for the PowerCoat 9000 Series models. Months after export & finalization, the European Office decided to take their own stab at it, and then dropped the project after initial concepts. This stalled the "M2" (internal code name) to the point where they simply changed the motors to fit within the existing housings, despite the new housings and legs costing less per assembly.

Consumer Grade

Kick Off Objectives and Parameters

Marketplace Analysis

Design Language - "Rugged Precision"



- Develop a Direct Feed Pump that matches the visual cues and language of the FLEXio Sprayer (pictured above).
- Make the packaging as small as possible, while still being able to operate the device with gloves on.
- Design the housing to move with the Paint Reservoir, so as to eliminate paint reservoir on gun and lessen cleaning.
- Design for Universal Fit in both US and European Markets

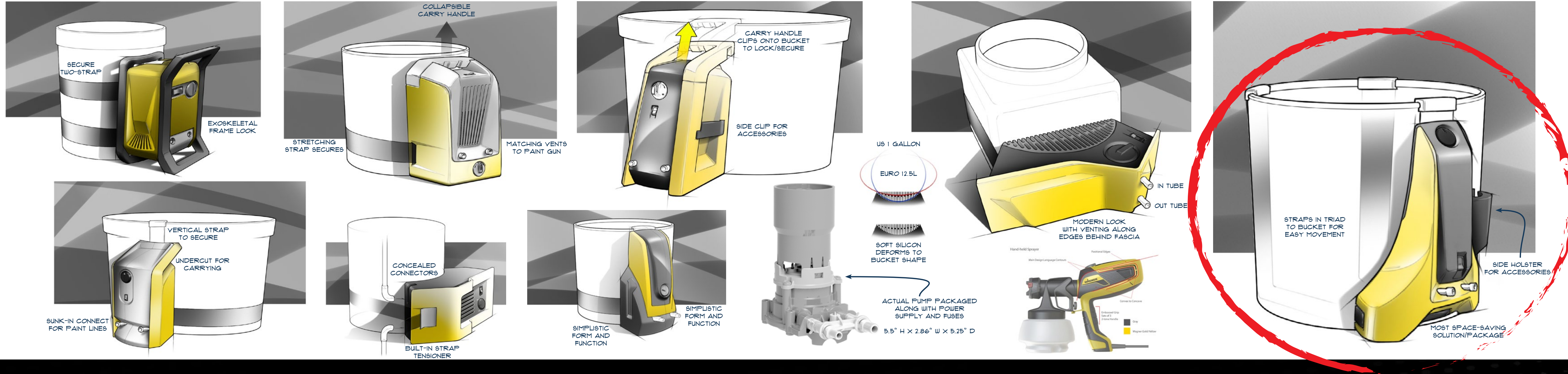
In the US Marketplace, there are plenty of direct feed options; however most are difficult to move the system as a whole. Most have several units that take 2-3 trips to move from one area to another. Additionally, these systems are cumbersome and time consuming to clean out after use.

To work in both US and European Markets, we would need to ensure a secure fit to the 4 paint receptacles shown above.

Similar to our development in the Commercial Grade Level, we used the language of "Rugged Precision" to drive the forms and finish within our concepts. However, we shifted focus from 'professional grade' example to those of the enthusiast, as we found parallels in the marketing and consumer strategies for this category of buyers.

Initial Ideation 2

Consumer Grade Concept Sketches



For Initial Concepts, the team and I focused on developing products that were as small and compact as possible. Trying numerous different orientations/layouts of components, attachment strategies, and interactions with the paint vessel allowed us to create a slim and sleek design that was easy to use and move.

Revised Concepts

Consumer Product Refinement

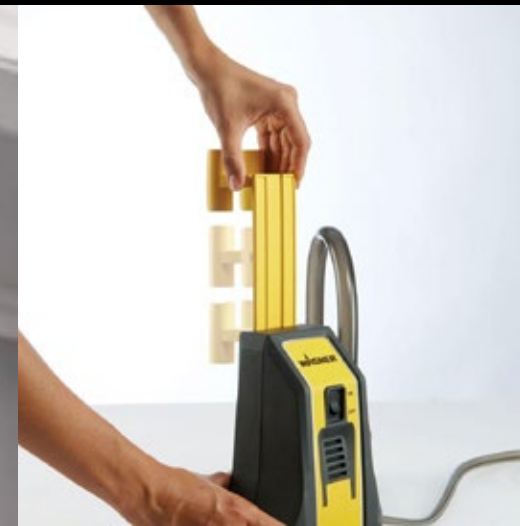


During the refinement stage, the focus moved towards combining and adding in features while also protecting various components. This included thinking about how the system would store, adding in a cord/piping wrap feature, and improving use and shortening cords overall by adding a pass-through 120V Outlet for the FLEXio Sprayer.

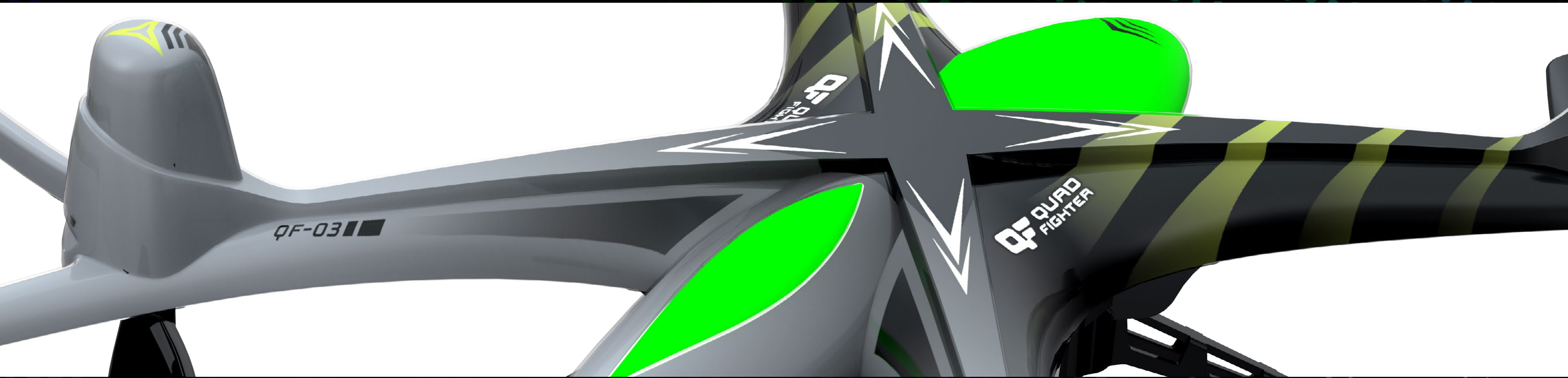
Pictured above is the last phase of CAD that we were directly involved with, showcasing the narrowest possible packaging of components and features in a cost effective manner. This pieces, along with quick sketches for additional styling were the final points of contact for myself and the team prior to production.

Final Product

Wagner SideKick and FLEXio System



Pictured above are the actual products available today, the SideKick (US Market) and FLEXio 2 Go System (Europe). If you not, a lot of the SideKicks geometry stayed close to our Concept CAD whereas the European division followed closer to some of our initial sketches and imagery provided towards the close of the project. Both are inexpensive, yet highly rated painting systems that are consumer friendly.



Objectives and Challenges

- Design and Engineer a small, light, and stable Quad-Copter that weighs in it's completed state less than 35 grams.
- Design and Engineer a Controller that controls the Quad-Copter with motion input from the User
- Ready Parts and Components for Manufacture and Sale

May 2012 - March 2013; became the QFO Labs NanoQ and MimiX System
Role: Industrial Designer to Project Lead, Design Direction, & Final CAD

Project Outline

Kick Off Objectives and Parameters

Marketplace & Customer Analysis

Hands on Research



- Design and Engineer a smaller version of the original developed by the U of M Engineering and Electrical Design Team.
- Create a compact, comfortable Controller that directs the device with a combination of controls, buttons, and motion.
- Design and Engineer all parts with minimal weight, while sustaining regular abuse.

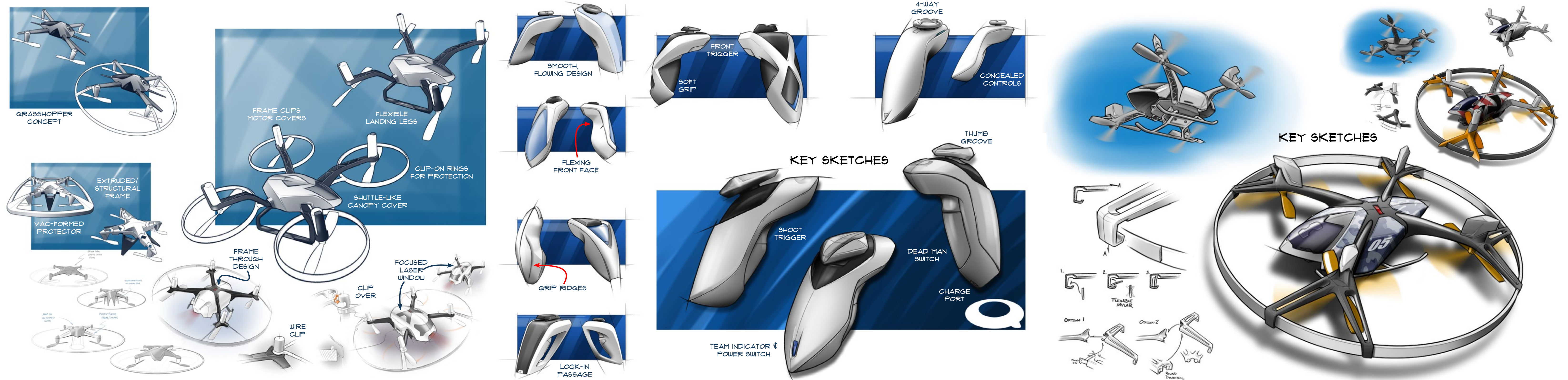
The current market in 2012 was exploding with Drone, with the two most popular being the Parrot (for the consumer market) and the Ladybird (for the enthusiast market). The main controller for the first couple rounds of testing were based on the Wii Nun-chuck, with a modified front for the depth of the initial hardware.

After the initial design meetings with QFO, we were invited to fly both the original craft and a rough small mock-up. Notes are as follows:

- Ergonomics are the main concern for the controller, especially for those with smaller hands to grip it properly.
- Aerodynamics of the arms will be key for rigidity and stability.
- Substantial and Flexible Legs are needed for the Quad-Copter.

Initial Ideation

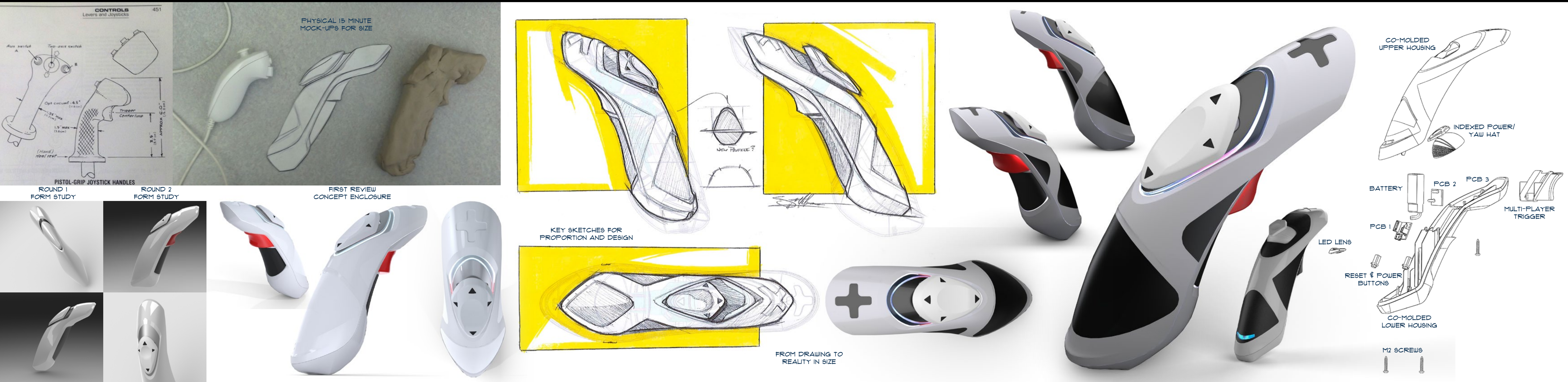
Concept Development and Solutions



In the development of the NanoQ and MimiX modules, we looked at various real-world examples, from Apache Cobra's and Stealth Concepts to creatures that flew, such as Grasshopper and other Insects. Chosen directions, as shown above, were chosen for their mass appeal in a friendly, yet aggressive way. The controllers we purposely kept clean and simple, to not intimidate the flyer.

Controller Studies

Ergonomic Testing and Concept CAD



The first few rounds of work with the MimiX Controller we focused on the ergonomics and size of the end device. This involved creating everything from crude clay models and cut-outs to foam core studies and sculpture based on CAD work to ensure proper fit and comfort of the device. This allowed us to properly package the 3 PCBs within the device, knowing our limitations on size, depth, and movement of the trigger and 'hat'.

After refining the ergonomics, the biggest challenge was creating sink-free, A-B mold ready CAD that also held the 3 PCBs, large battery, buttons, and various other small pieces in proper alignment. We were actually able to split the cavity and draft the open face for the front grip on the bottom housing to draft downward, reducing mold cost by \$15,000 and allowing for a longer tool life.

Copter Studies

Weight vs. Vibration vs. Aesthetics

Fly Right, Fly Efficient

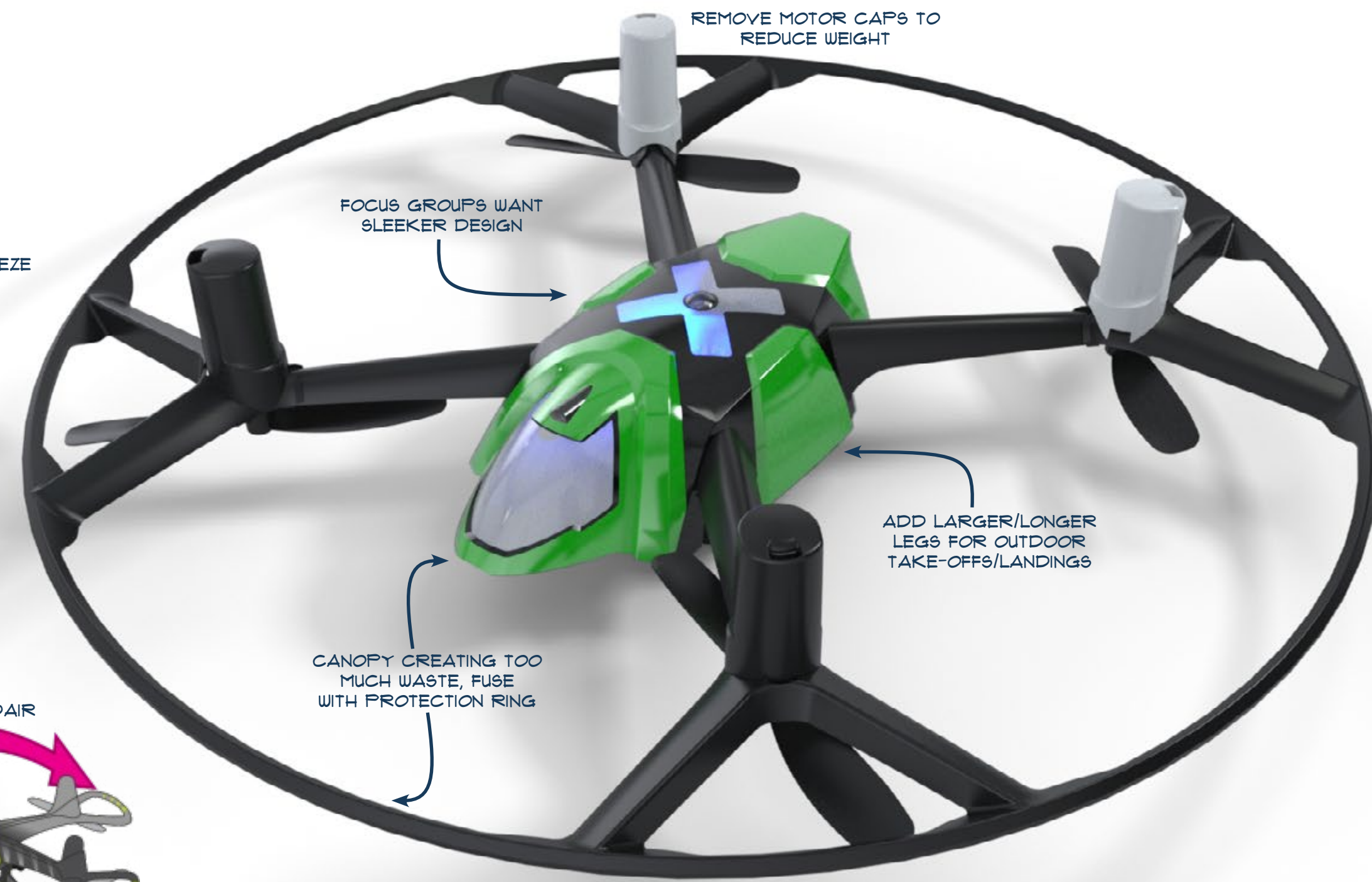
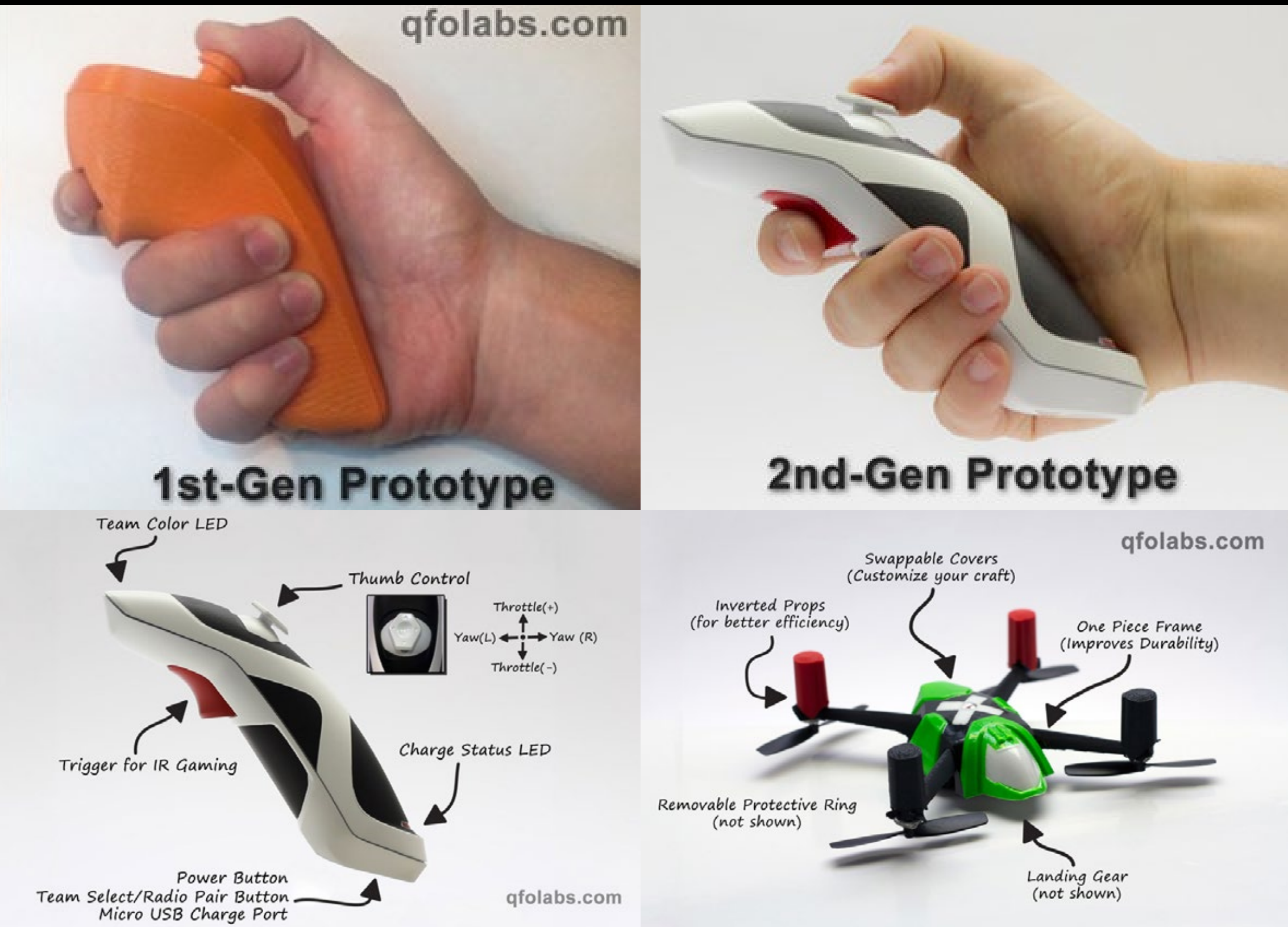


In the refining of the NanoQ Copter, we not only had to cut weight to a minimum (35 grams total assembly), but there were vibration issues occurring in the arms. We experimented with out 15 designs, rigs them and running test until we decided on a cored channel with elliptical profile. This gave us optimal stiffness with the least material, and would eventually be used for wire routing.

We were also tasked with improving the efficiency of the Propellers bought for the original motors. By optimizing this, we could improve flight time and maneuverability through proper cavitation and curvature of the propellers edges. After 3 rounds of testing and close to 25 prototypes, we were able to find a sweet spot for the reverse orientation propellers.

Beta Models

Design Refinement and Kickstarter



After initial runs with a local manufacturer for Kickstarter runs, we gained a lot of feedback from our user groups to improve the design. We received feedback in everything from Programming Error, Multi-Player suggestions, and physical improvements to the copter. This included a revision and reduction in the upper frame to accommodate for longer landing legs without incurring additional weight.

Final Product

Revisions, Recognition, and Patents



After Launch, QFO Labs immediately sold a large order of product to Brookestone stores, becoming one of their best selling personal flying craft of the 2013 Holiday season. We received nationwide attention after the product was purchased and showcased by Presidential Candidate Rand Paul on Cable TV news, flying it around the studio. We also hold 3 patents on the system, including the control of a flying craft via motion based input and gestures.

Kick Like a Girl

Product Design and Branding



Objectives and Challenges

- Design and Engineer a series of products to replace the current system of Trophies and Awards for young female athletes
- Define and Refine a New Brand Language
- Engineer and Export CAD and Graphics for Production Pieces
- Actively Market with the Brand and Revise for Better Sales

September 2012 - Present; became Kick Like a Girl and PentUp Sports brands
Role: Design Direction & Project Management at Kablooe, to Contract Designer and Lead Creative Independently

Project Outline

An Inspired Look at Encouragement

Marketplace & Customer Analysis

Mind Mapping of Concepts



Attachment Methods

1. Screw
2. Positive Latch
3. Magnet
4. Twist and Lock
5. Slide On
6. Slide In
7. Plug In
8. Cuff and Link
9. Weaved
10. Interactive Slap
11. Pop In/Friction Hold

Concerns of Our User Groups

8-13

1. Can I get it on and off quickly?
2. Does it look cute?
3. How easy can I change the charms and trade them?
4. Can I buy them with my allowance?
5. Can I accessorize it with other Bands or Bracelets?

14-18+

1. Can it match today's outfit?
2. Is it cool?
3. Will it last?
4. Can this match my "grown up" personality?
5. Will my girlfriends think it's cool?

Type of Bands/Interactions

1. Wrist Band
2. Necklace
3. Anklet
4. Coaches Board
5. Belt/Belt Accessory
6. Storage Box

Ingress/Egress

1. Slap Braclet
2. "Silly Bands" Type
3. Ornate Clasp Over
4. End Connector
5. Branded Connector ("K", Pentagon, Flower, etc.)
6. 1/4 Turn Locking Connector
7. Stretch Over
8. Watch Style
9. Knot

Material Definition

Charms

1. Jewelry Like Gems
2. Polished Metals with Inserts
3. Cast Multi-Finish Metal
4. Injection Molded Plastic with In-Mold Vinyl Graphic
5. Molded Rubber and Secondary Graphic (Cast Resin, etc.)

Band

1. Linked Polished Metal
2. Sport Band Rubber/Silicone
3. Other Soft Plastics (TPE, PPE, etc.)
4. Woven/Fabric
5. Imbedded Magnetic Plastic
6. Wrapped/Braiding Wire
7. Leather

Profile and Charm Shape

1. Sphere
2. Disc
3. Crowned Disc (Lens)
4. Square (Pillowed/Non-Pillowed)
5. Egg
6. Taurus
7. Triangular
8. Pentagonal
9. Hexagonal

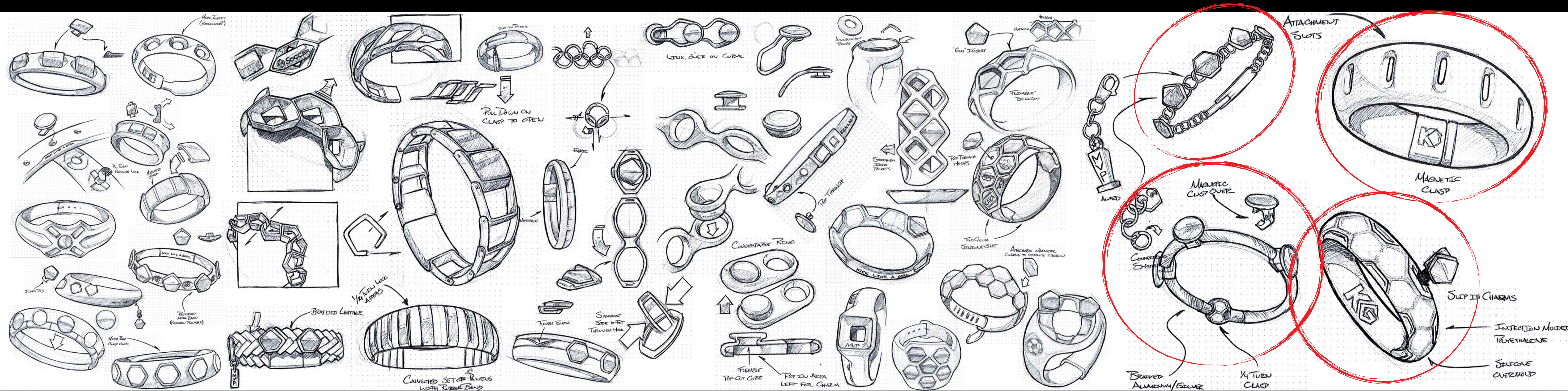
KLG Charm System

Kick Like a Girl's founders, Tom and Jean Soehn, are passionate soccer players and coaches started to notice a shift in their culture. The traditionally Trophy driven Award System of their sport no longer speaks to the youth of today, nor does it award or encourage them for all of their improvements on a daily basis. This became the basis and doctrine of KLG: "Unite young women together in sport, encouragement, and sportsmanship everywhere."

From this realization, came the formation of the Traveling Trophy Case, a way to show off your accomplishments and personality everywhere and anywhere. The idea has been explored in personal reflection, with Pandora and Mogo being the leaders of jewelry based exchangeable charms. In moving forward, we'd need to find a unique way to approach these designs to stand out in the marketplace.

Initially, the discussion and brainstorming were made too limiting and male-driven. As a departure, I dove into researching every aspect of young women, ages 6-18; conducting surveys, interviews, and reading countless articles in young women's magazines. This gave the team a more unique and focused ideology, which helped to develop the above mind map to move forward into the development process.

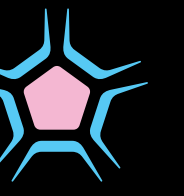
Exploration of Form and Function



To start our ideation, I explored over 45 different concepts that centralized around the attachment of the charms and perception of a fun and youthful branding. The concepts shown above were the most well received, as they were attractive to all age groups. Next phase of ideation would be focused on any ability to adjust sizing along with looking at the construction of both Band and Charm.

Concept Revision

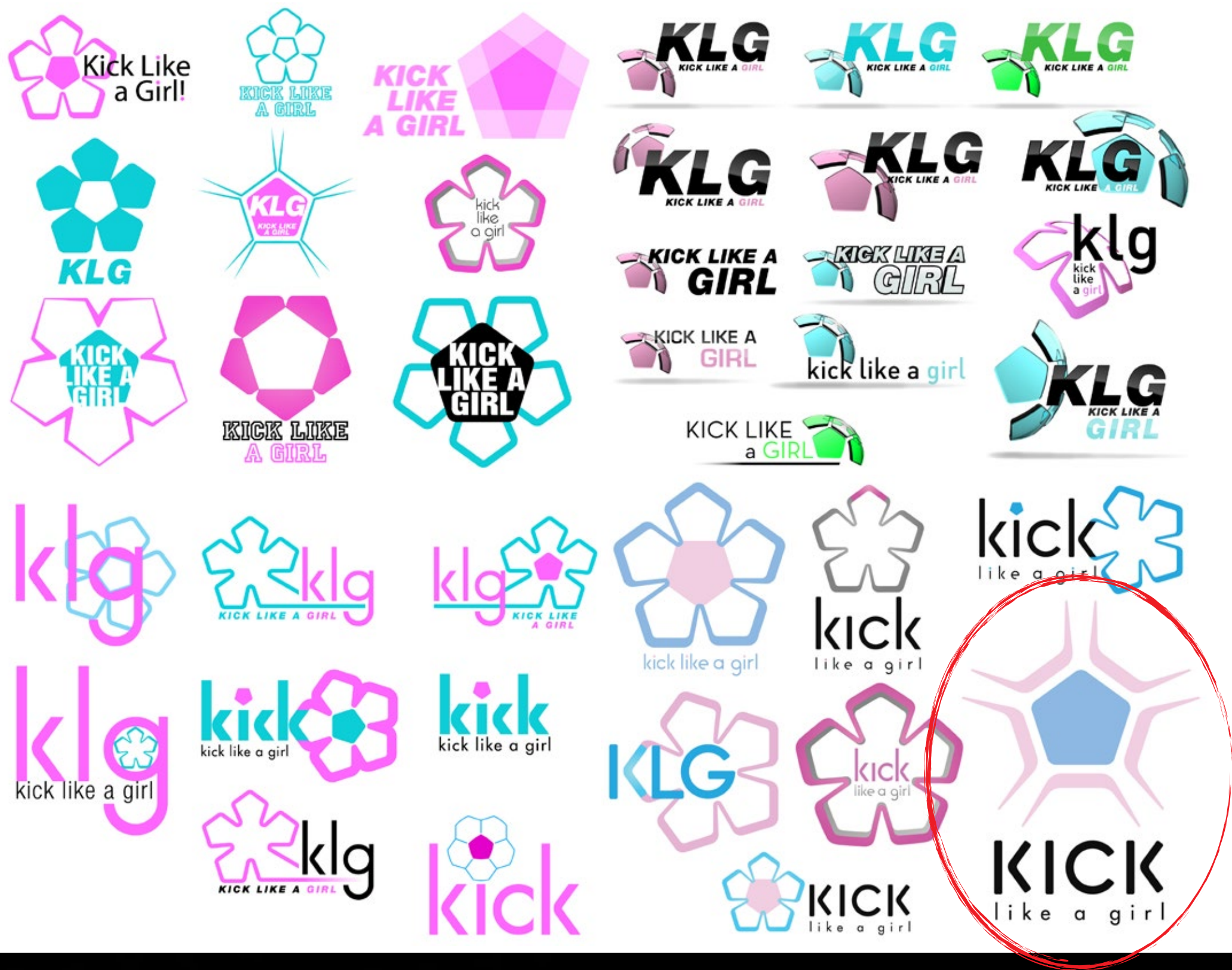
Continued Work and Development



After refining, the remainder of the concept definition for the bands was completed by the team at Kablooe (after my departure). However, I did still oversee the production and implementation of KLG's over 50 different charms designs, including a series of award charms with a 2 stage printing process for extra glimmer, as well as helping to coordinate the website creation, apparel, and (as you'll see on the next page) brand identity definition.

Branding Design

Logo, Graphic, and Web Design



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Before Kick Like a Girl could launch, they needed an identity to go with their products. One of the earliest ideas was to emulate the soccer ball itself, which lead to numerous explorations that discovered it's similarity in pattern to that of a flower. These rounded forms that came from my development further influenced the KLG font, which I cuild and programmed from scratch. In the end, we used the KLG Star in bright, colorful imagery in combination to the font for our branding.

First Product Line

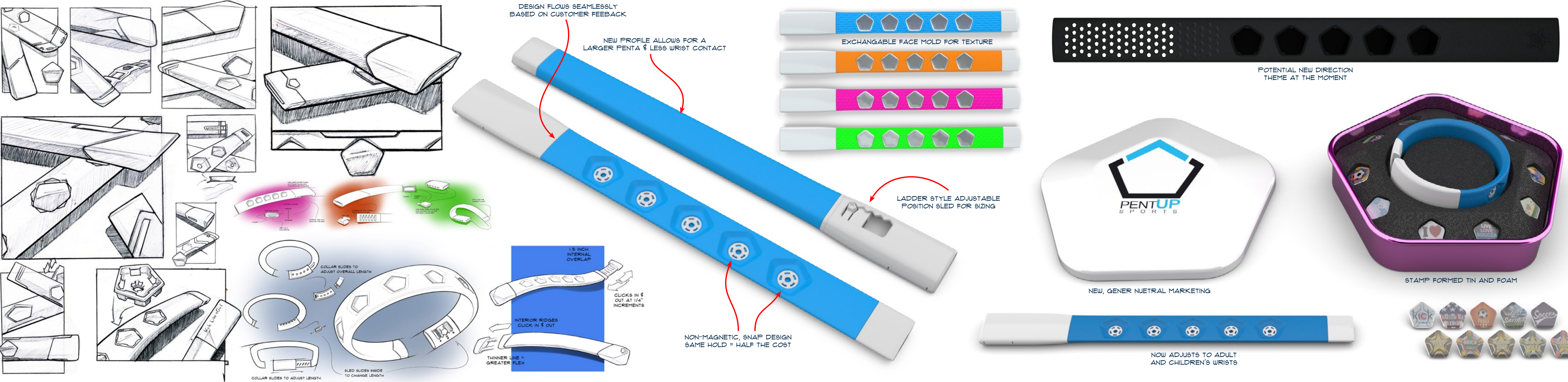
Main Product and First Successes



After its initial launch, KLG found itself with a bevy of clubs and camps that now use the Kick Like a Girl system to award and encourage their young athletes. With over 5000 bands and 30,000 charms sold, KLG looks to broaden their reach into other sports and demographics, reaching young women the world over to encourage teamwork, friendship, and positive attitudes.

Design Revisions

Current Studies and Revisions



After the initial launch, we immediately looked toward a 2 stage update and transition. The final construction made by the Kablooe team was costing far more than preferred to product, and I was tasked with reducing cost and preparing the brand for smart integration within 3 years. This lead to the above direction, an adsutable clasp that fits more comfortable and securely, while costing half the money to produce.

Galil Medical

Cryoablation Device and UI Design



Objectives and Challenges

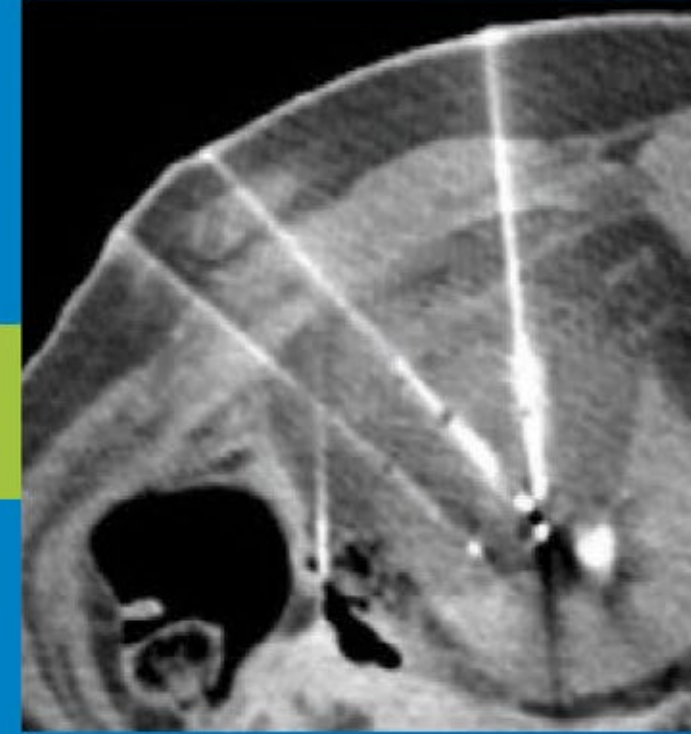
- Define and Outline an Updated User Interface
- Work with Galil Medical and its Medical Experts to Develop a New Platform for Portable Cryoablation
- Define and Engineer a Robust, Portable, and Stable Unit that will house Sensitive Chemicals and Systems

September 2012 - January 2013; was to be Visual-Ice 2 System, still in Concept Phase
Role: Industrial Designer, to leading Design Direction, Prototype Build, & Export CAD

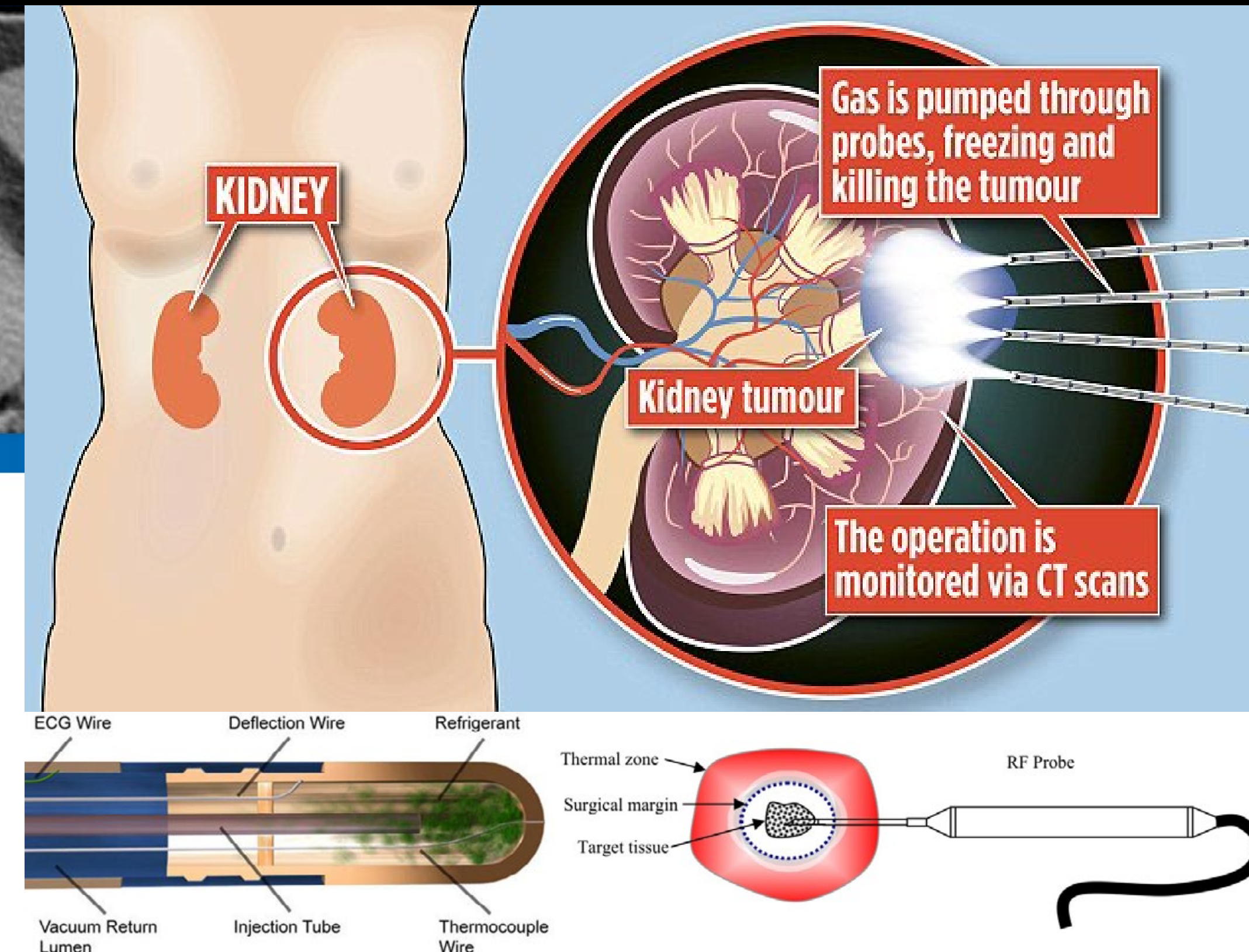
Project Outline

Kick Off Objectives and Parameters

Image Guided Percutaneous Renal Cryoablation



A Quick Education



Current Marketplace



- Redesign the User Interface and Experience to be able to quickly and accurately adjust Cryoablation Treatment.
- The entire product needs to be easily transported from one facility to another, whether in the same location or via truck.
- The interfaces for needles, tubing, and user input need to be clear, durable, and stowed for travel.
- 2 Internal, Refillable Pressure Tanks must be secure & safe.

Cryoablation is a process that uses extreme cold (cryo) to destroy or damage tissue (ablation). Ablation occurs using three mechanisms:

- Formation of Ice Crystals in cells to disrupt Cellular Metabolism
- Coagulation of Blood, interrupting blood-flow to the tissue in turn causing Ischemia and Cell Death within Cancerous Cells
- Induction of Apoptosis, or "Programmed Cell Death Cascade"

The current marketplace is a small one, even more specialized than the practices performing it. However, there are items to note:

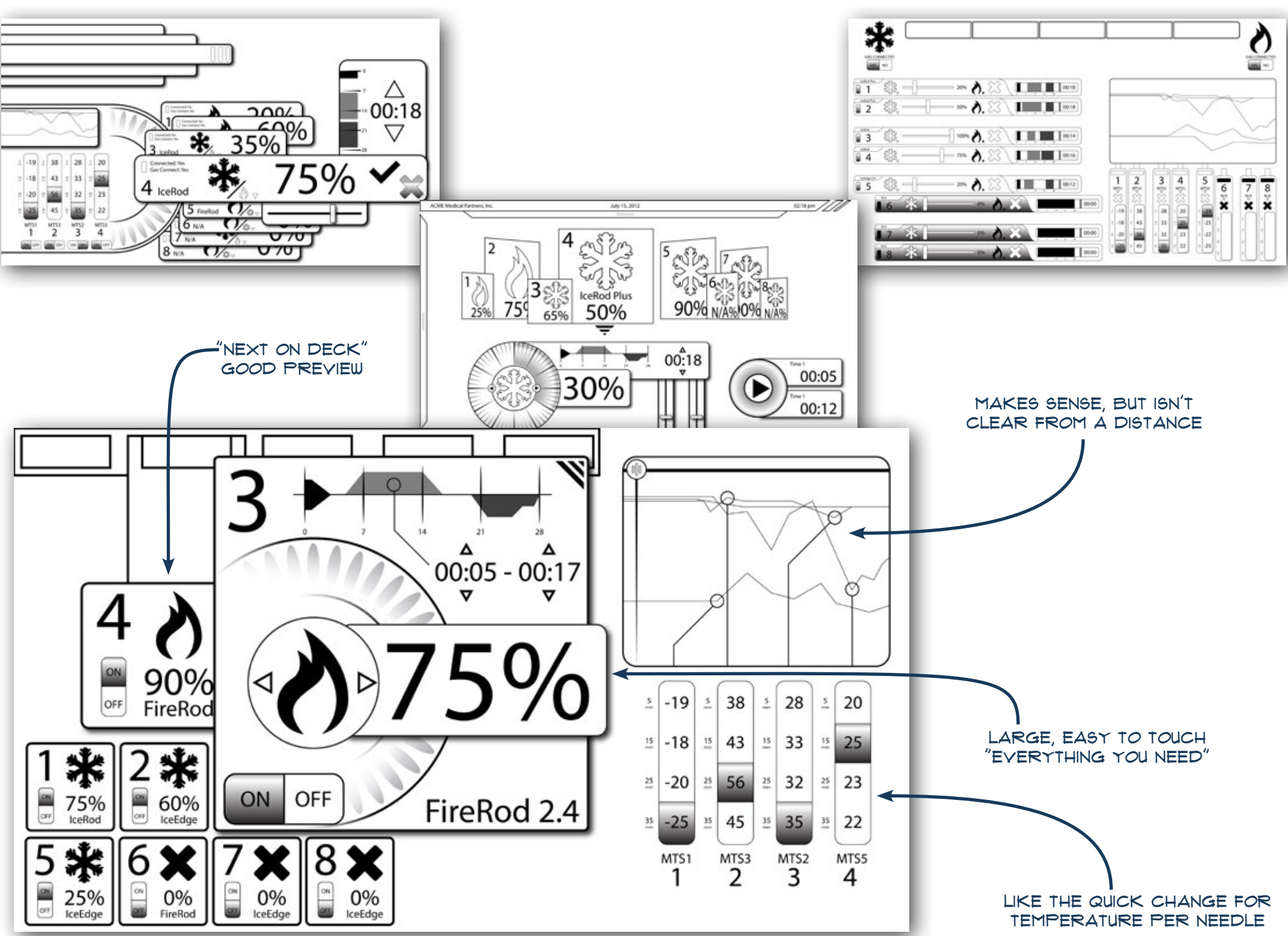
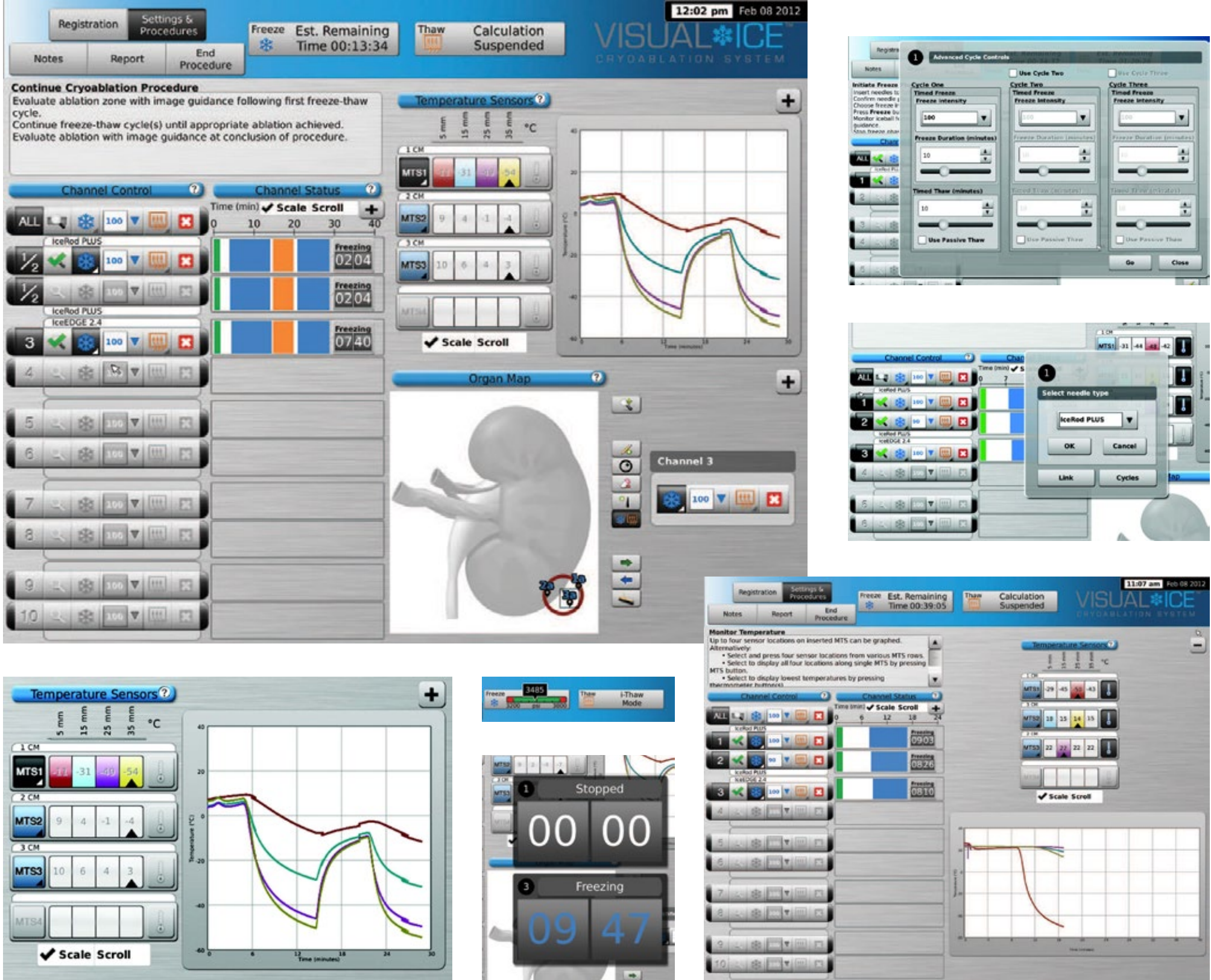
- Most units do not include tanks within, and instead use what're called "scavenger tubes" to draw gases and cyro-liquids.
- Galil has 4 models, but none that are all-in-one solutions.
- Easy Connection Points and Screen Processing are most needed.

User Interface

Analysis of System and First Steps

UI Inspiration

Wireframe Layout of Single Screen



The Visual Ice System 1.0, as pictured above, is the basis of moving forward. It had proven to be successful in controlling the system, but is a nightmare to navigate with a mouse to every option available. The new User Interface needs to function faster and cleaner, being able to be viewed easily from several feet away. Additionally, Galil would like to switch from a mouse and keyboard style navigation to touch screen.

With the switch to touchscreen interface, we would need to vastly change the way our doctors and technicians interact. The doctor's and technicians in Galil were big fans of the iPhone iOS system at the time, and consistently referenced the customized system icons (some from Cyndia) and the Album Scroll inside of iTunes and Music. At that time Windows 8 was launching as well, expanding on it's "Live Tiles" developed for its mobile platform.

In beginning our ideation, we reduced everything to it's most essential pieces. No color, no branding, no fancy fonts; just simple layouts and new icons that would give a taste of what we can do. The bottom concept was the most preferred direction, as they liked it's ability to scale without over powering. All designs moving forward would be in 1920 px by 1080 px format.

UI/UX Ideation

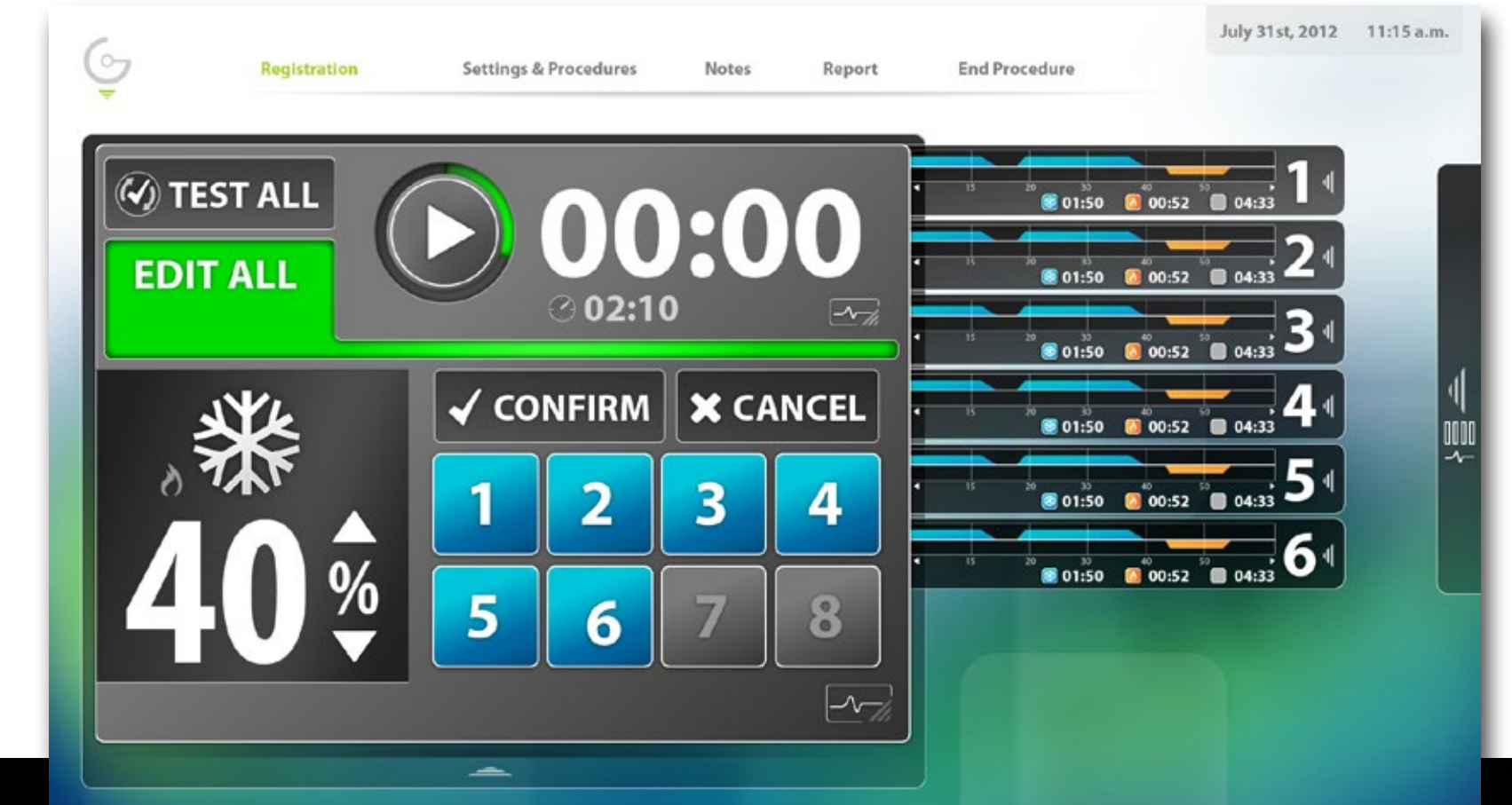
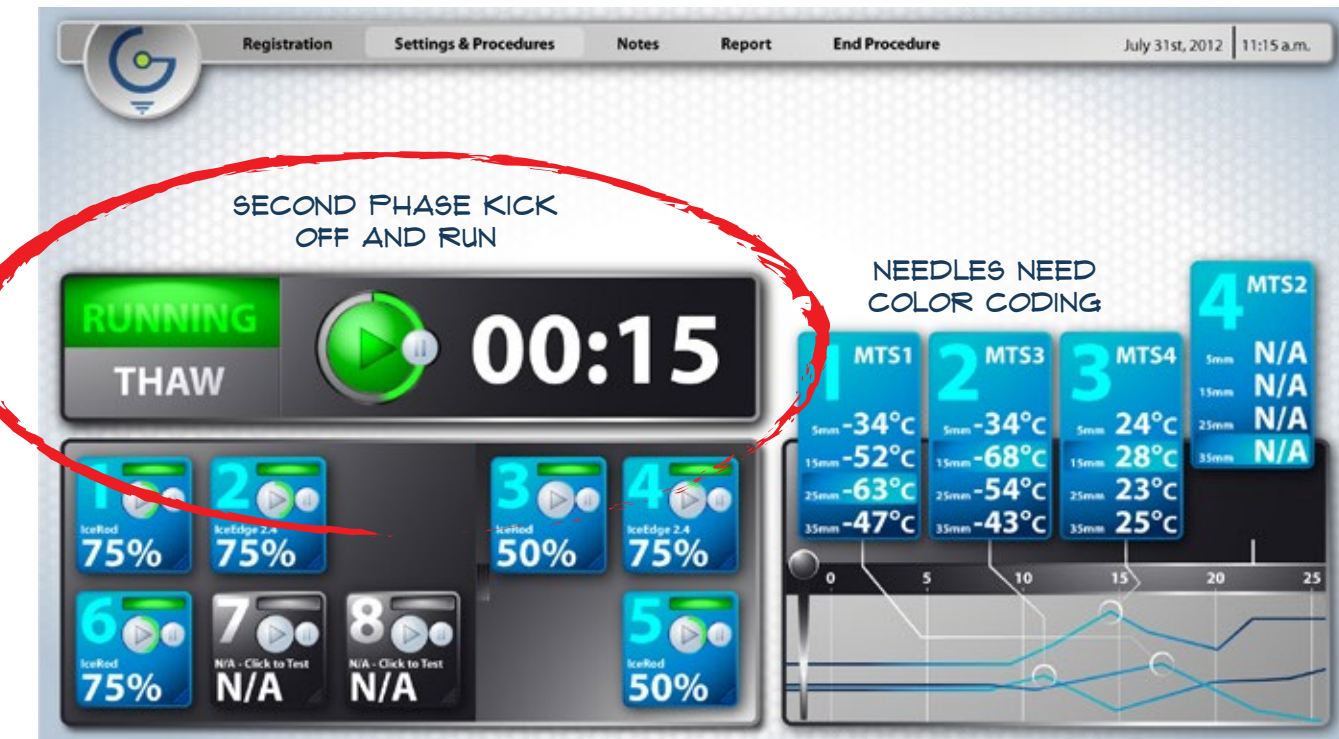
Polishing the Look & Feel



After Exploring 3 variations of the preferred directions, and revisiting the iOS Album Shuffle on request, we found an interface that showed promise. At this time, Galil had identified the screen that would be spec'd for the new system, allowing us to spec necessary pixel heights for each level of data. With this in mind, we started to route the use case scenario, and typical use of the device in format.

Concept Final

Refinement for Export and Program



After our Phase-by-Phase Review, Galil ran some surveys with their technicians, doctor's, and internal focus groups to give feedback and direction. In their evaluation, they found a few interface items that were preferred by the doctors. In addition, Galil wanted the background graphics to reflect some of their imagery in their office. After this, we exported the above graphics and pieces for programming, to be implemented into the Version 2.0 UI.

Product Ideation

Current Product Analysis & Revision

New Design Inspiration and Concepts



During our work on Galil's UI, they were impressed enough to have us tackling the redesign of their Visual ICE system to match the revamp to their UX. The above is their current model, commonly referred to as the "Dog Bone". The design works better than the majority of their units, however it was very creaky and top heavy, sometimes tipping during transport.

In the first round of rough concepts, we brought in a lot of inspiration of modern gaming towers, to give a more technical and advanced feeling to the equipment. The team seemed to gravitated more toward the more sharp, refined surfaces of the "Updated Dog Bone" along with the subtle curvature and placement of items on the 4-Point Concept.

Revised Concepts

Large Form and Interface Ideation



As we continued to revise the form, we began to play with the interface of the needles and their monitors, to create a cohesive but easy to read connection plate. Core features chosen for development forward were the concealing rails that acted like an exoskeleton to the inner bottom, the ventilation of the cryo tanks, integrated cord wraps, and the risings and descending mechanism of the screen.

CAD and Proto

"Precision" Branding Definition



Packaging every component, while ensuring that each system was kept separate from one another, was the largest challenge of the model. We had to simultaneously keep the pumps cool without leading them into a sealed Cryo-Box that the tanks would reside in. In doing our Alpha Model tests, we created a sub-frame of 80-20 Extrusion for each of the body panels to mount onto. This model would serve to run as a test piece in environment to gauge opinion and design.

Final Result

Alpha/Beta Model and UI



The final result was a looks-like model with the ability to install all components to various areas inside. Galil used it as a showcase piece at various function and investor presentations, as well as (from our understanding) started on-site testing to see the transportability. The above is representative of the final product as we had planned it.

Arctic Cat

Product Design & Engineering



Objectives and Challenges

- Design and Engineer Varying Solutions for the Current and Future Product of Arctic Cat
- Execute Class-A Surfacing & Engineer all parts for production in Injection Molding, Vacuum Forming, and Drape Forming
- Work with Engineers to Develop Designs and Proprietary Tech

January 2013 - April 2014; became the Sanus ULF & UMF Product Lines
Role: Industrial Designer, leading Design Direction & Final CAD to Product Design Account Leader and Liaison

Brand Outline

Arctic Cat & Sportech

Marketplace & Product Following

Breadth of Product Developed



Started in 1960, Arctic Cat is an originator for the entire power sports market; starting with their founder Edgar Hetten (who had previously started Polaris Industries) and his vision for passion driven power sports equipment. Since Sportech's formation, Arctic Cat has been one of their first and largest customer, utilizing us for Design, Engineering, & Manufacturing for their Accessories.

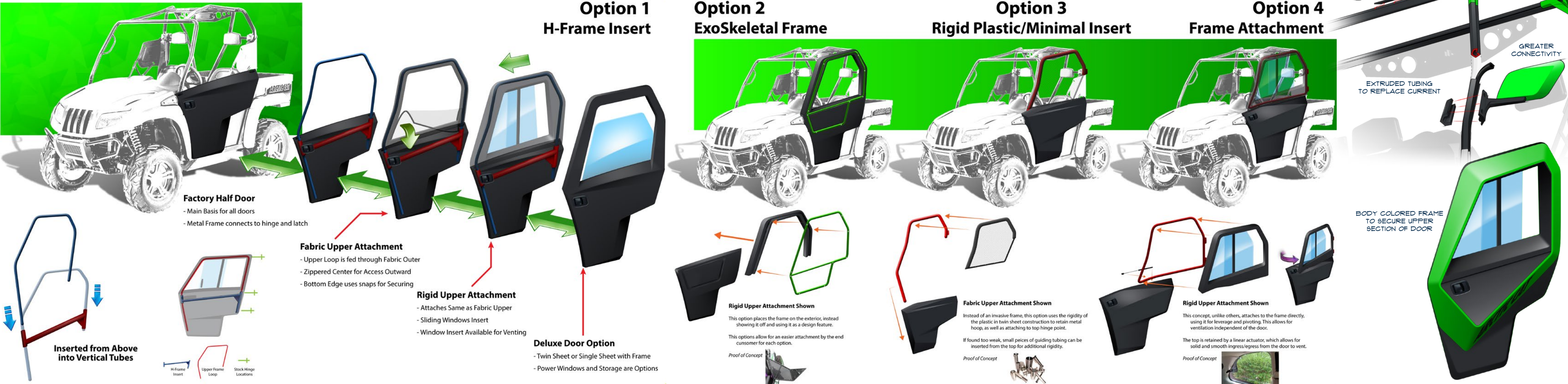
Although Arctic Cat is one of the original players in the field of Snowmobile, ATVs, and UTVs; the broad market of competition from Honda, Polaris, Kawasaki, and others have continually gouged into their business for every sector. However, in the market, Arctic Cat has probably one of the most passionate and loyal customer bases, so designing equipment must stay true to the brand's rich history

During my tenure at Sportech, I completed over 35 Accessory Proposals for AC, focusing on their UTV and ATV lines with some dives into their newly remodeled ATVs. Key objectives were as follows:

- All Products need to stand up to Heavy Abuse, Daily.
- Products should reflect the AC Design Language, or Enhance It
- All items should be easy to Install or Modify for User's Needs

Prowler 550

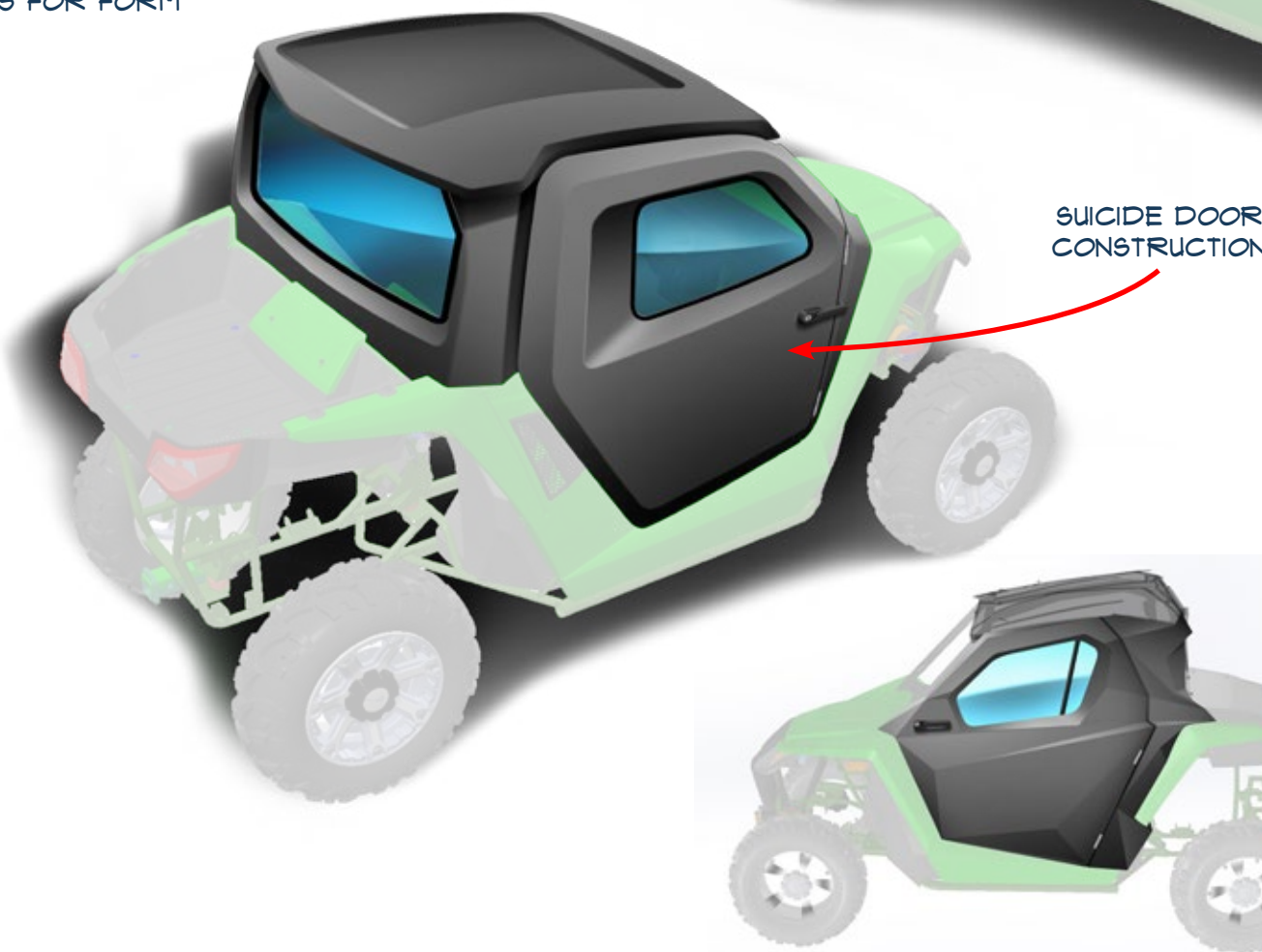
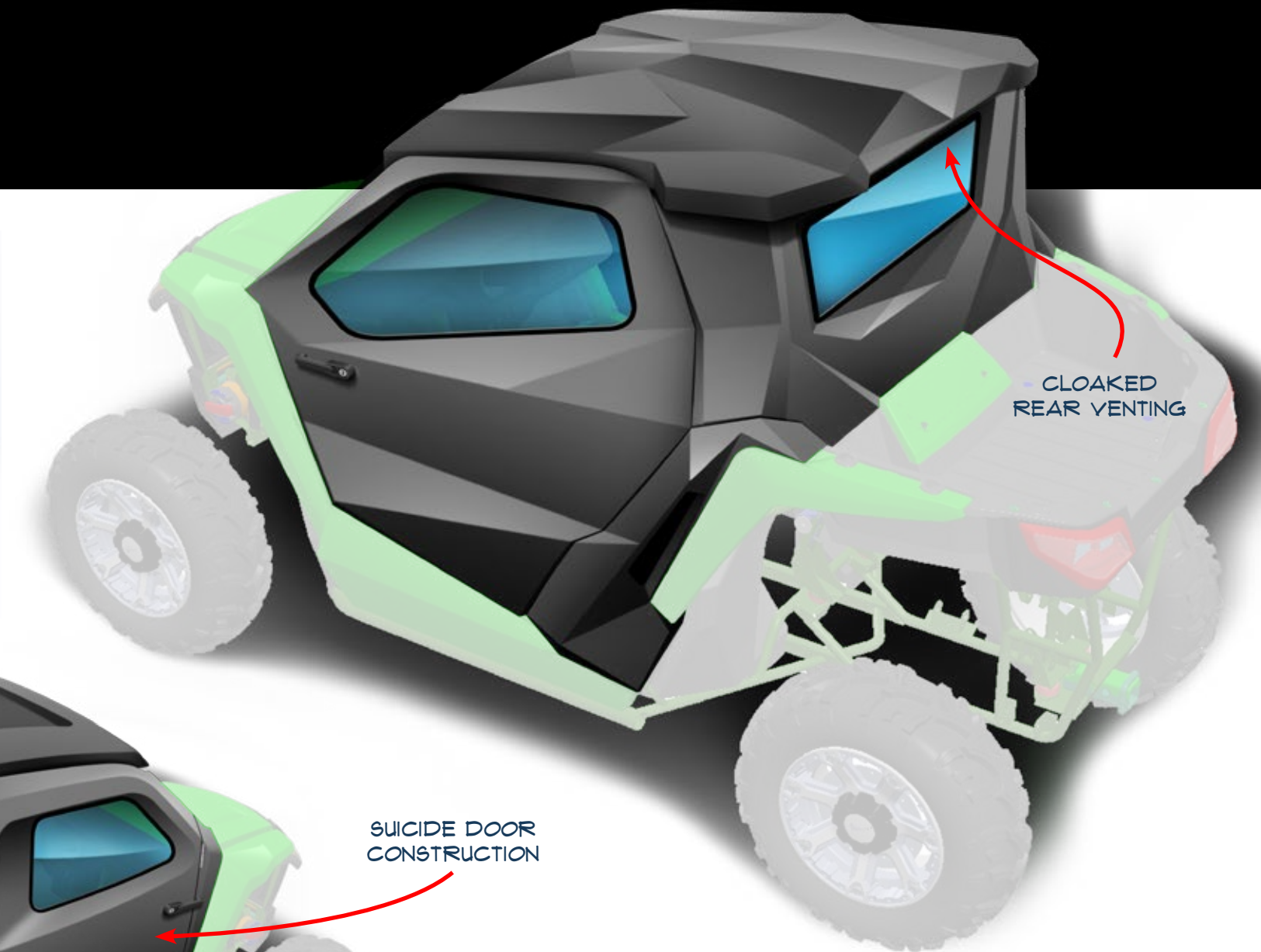
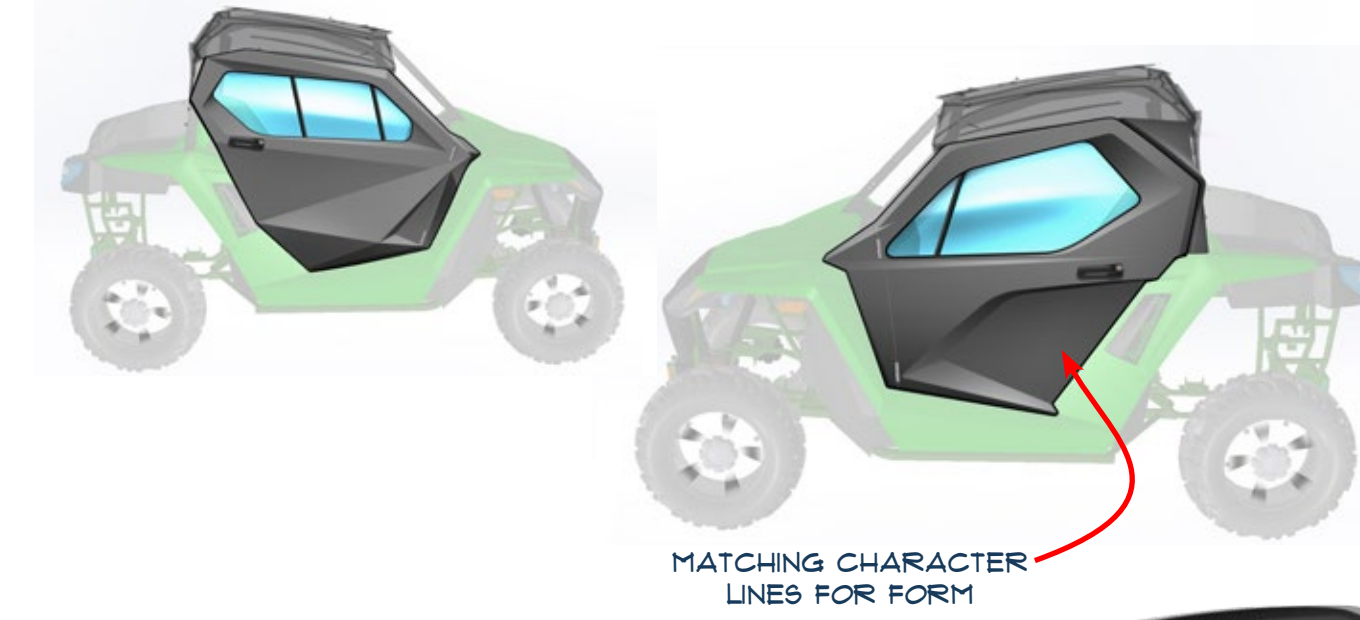
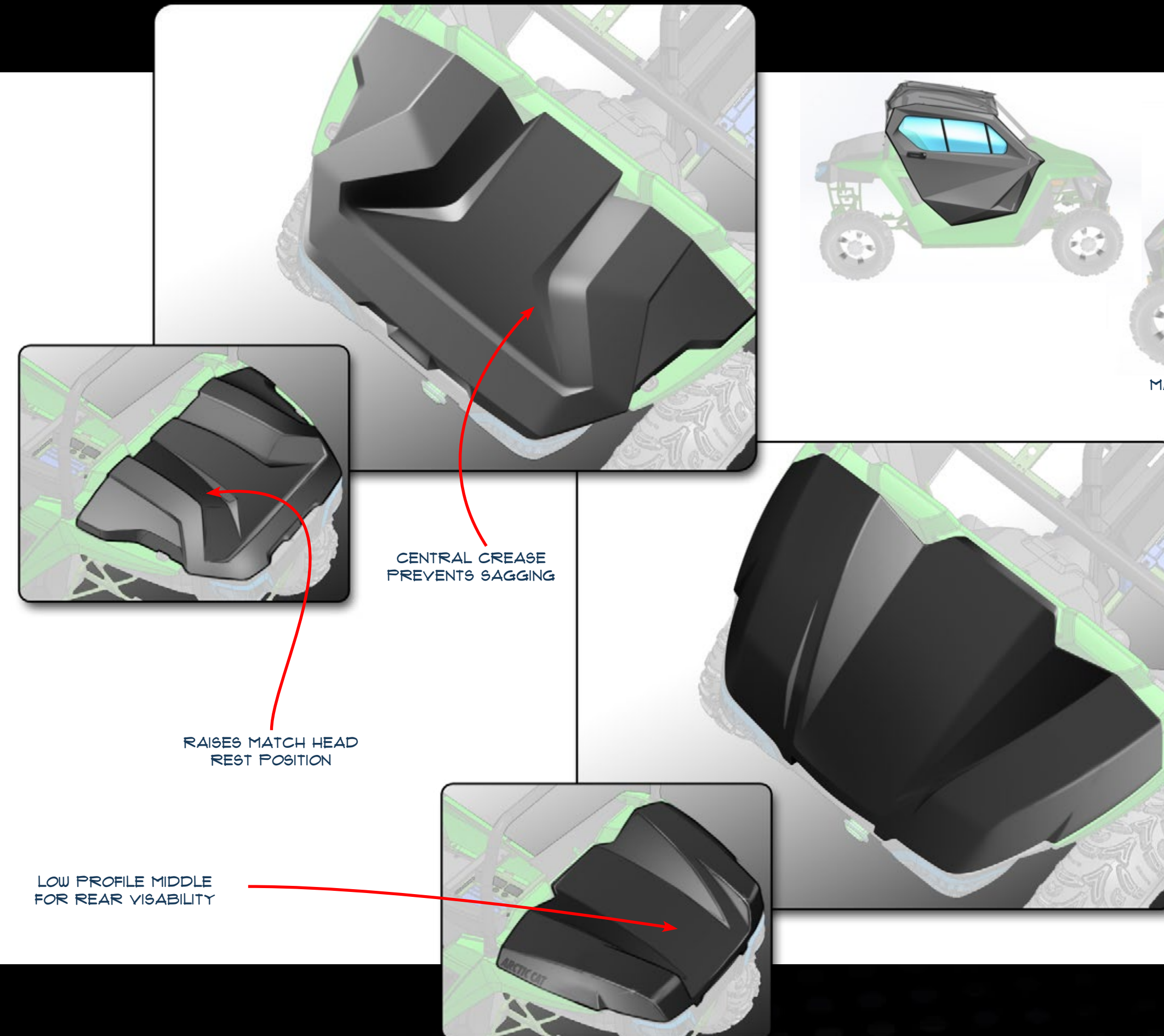
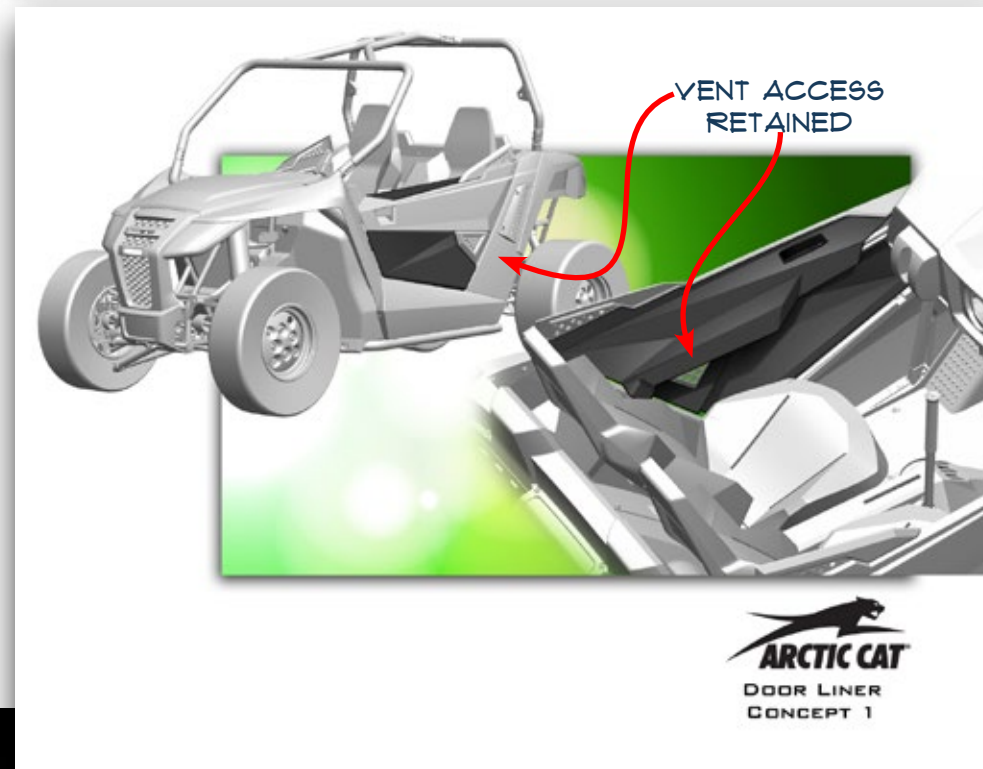
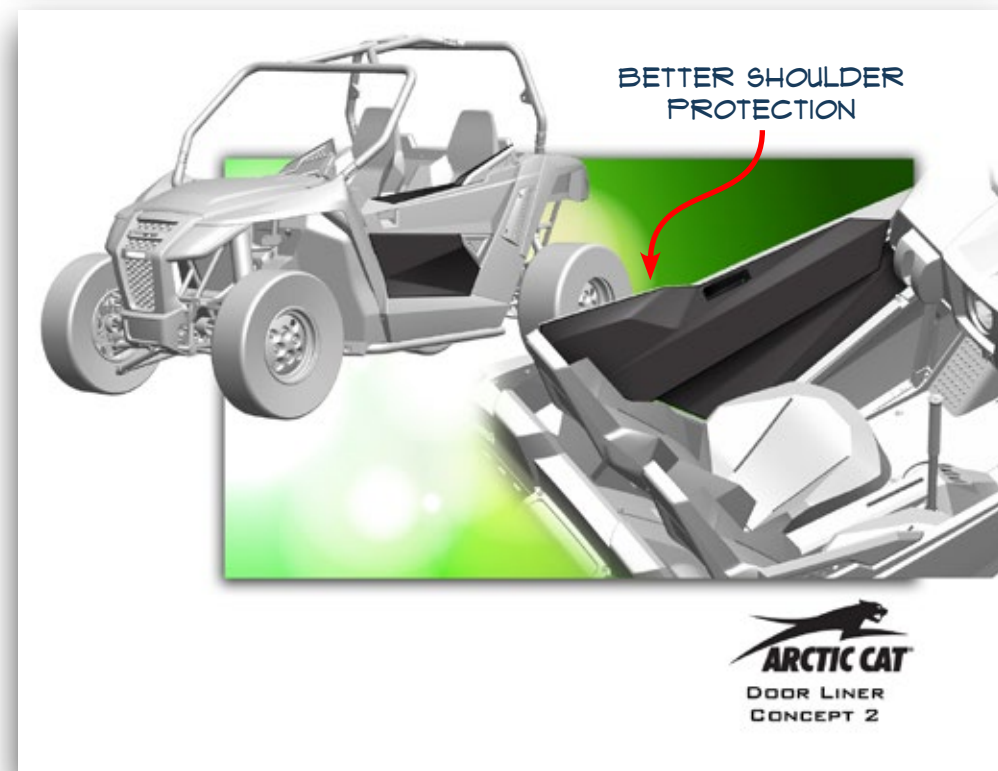
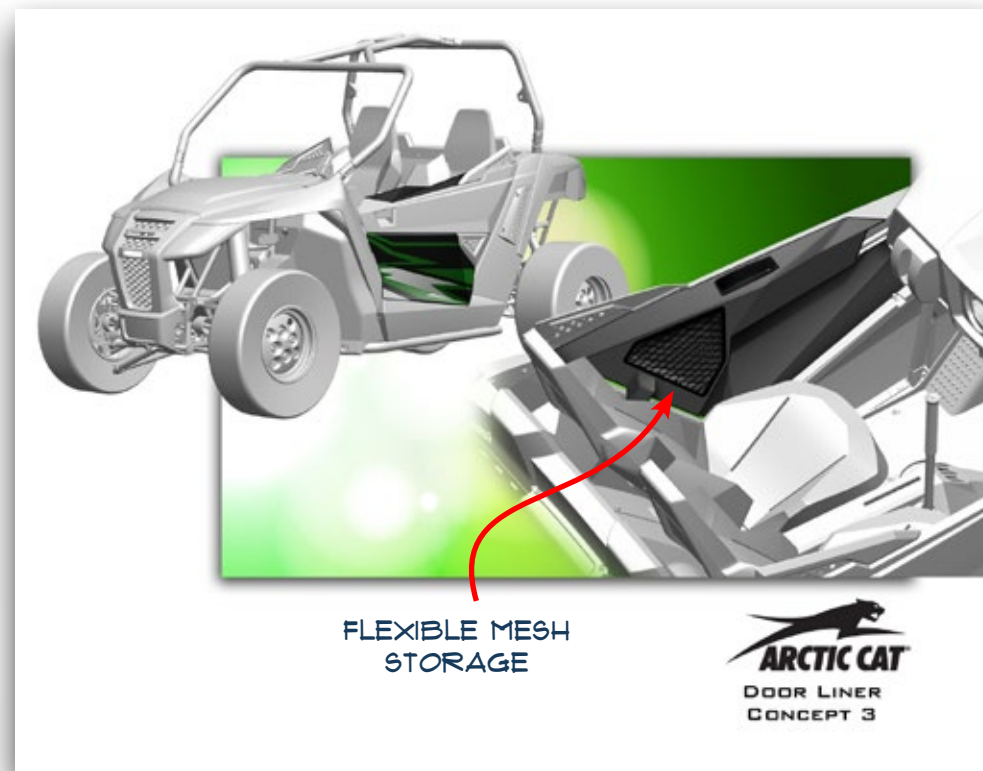
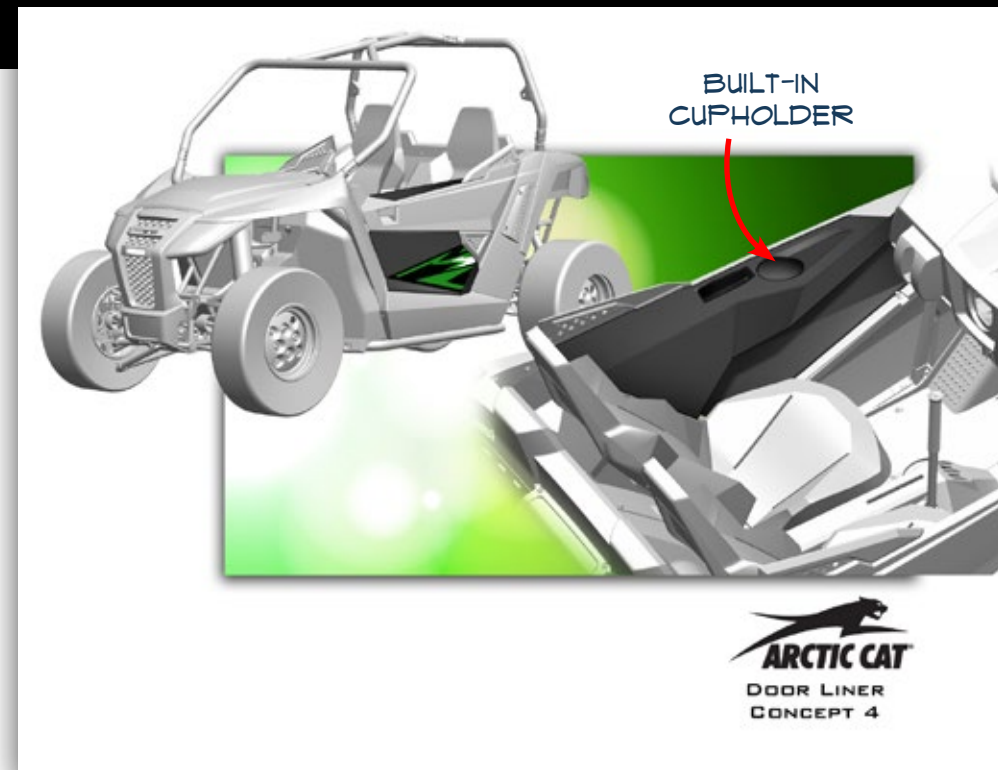
Door and Framing Solutions



The Prowler is the work horse of the UTV lineup, and over half of these models are ordered with Full Cabs, due to their usage all-year road. In preparation for future model revisions, I worked on theories of new constructions, style of door function, and ways for the customer base to customize the door for every season and need. Many of this solutions are in the midst of development for future model years.

Wildcat Trail 50"

Cab, Trunk, and Storage Solutions



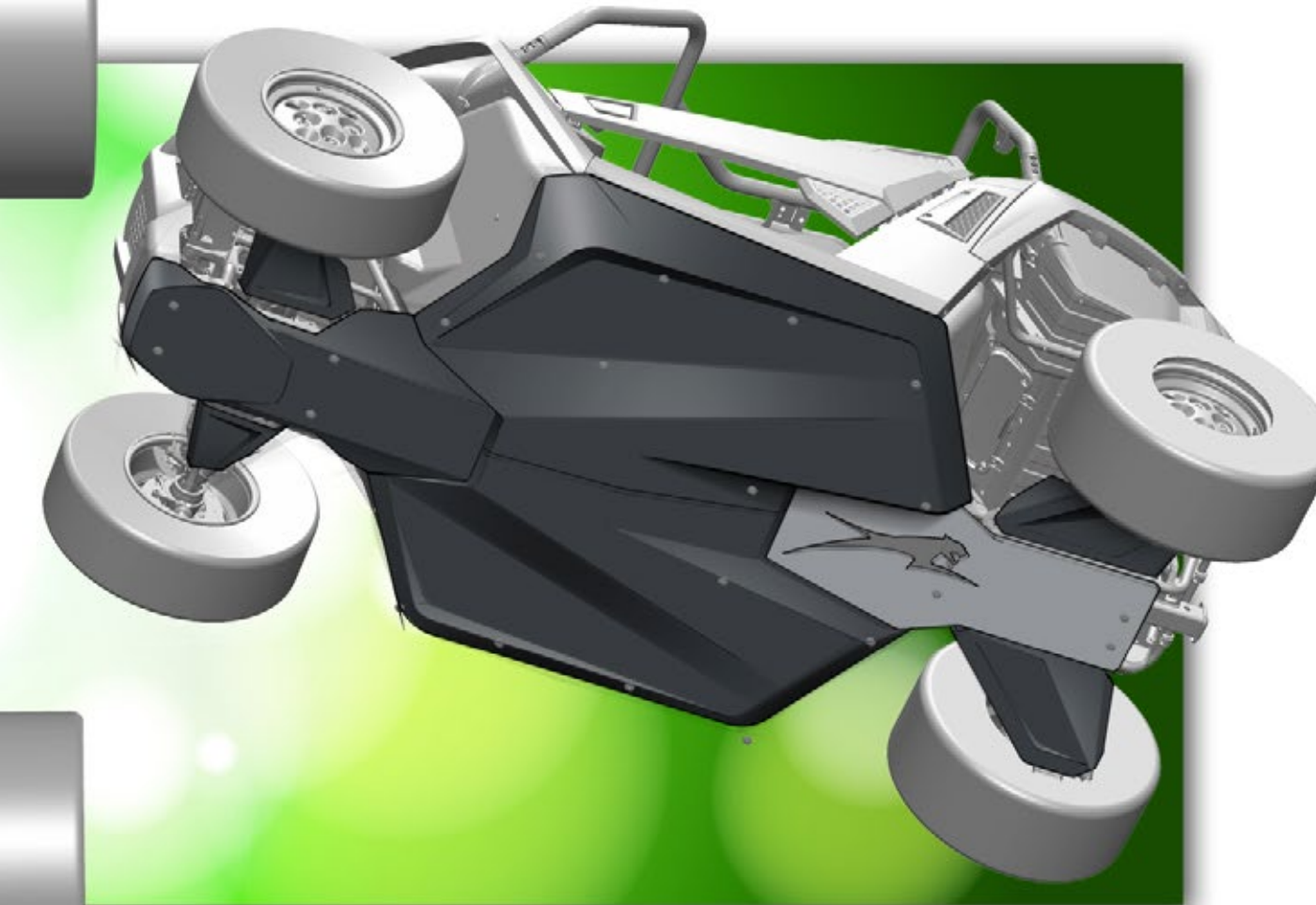
When the Wildcat 50 came out in late 2012, it came out to a huge buzz in the Arctic Cat community. Finally, a Wildcat that was the size of a Prowler and could be used legally on the trails. In preparation for this, we developed numerous storage concepts and cabs for readiness to market, including the development of a ventilation system that would eliminate dust entry to the cabin.

Wildcat Trail 50"

Skid Plate & Protective Systems



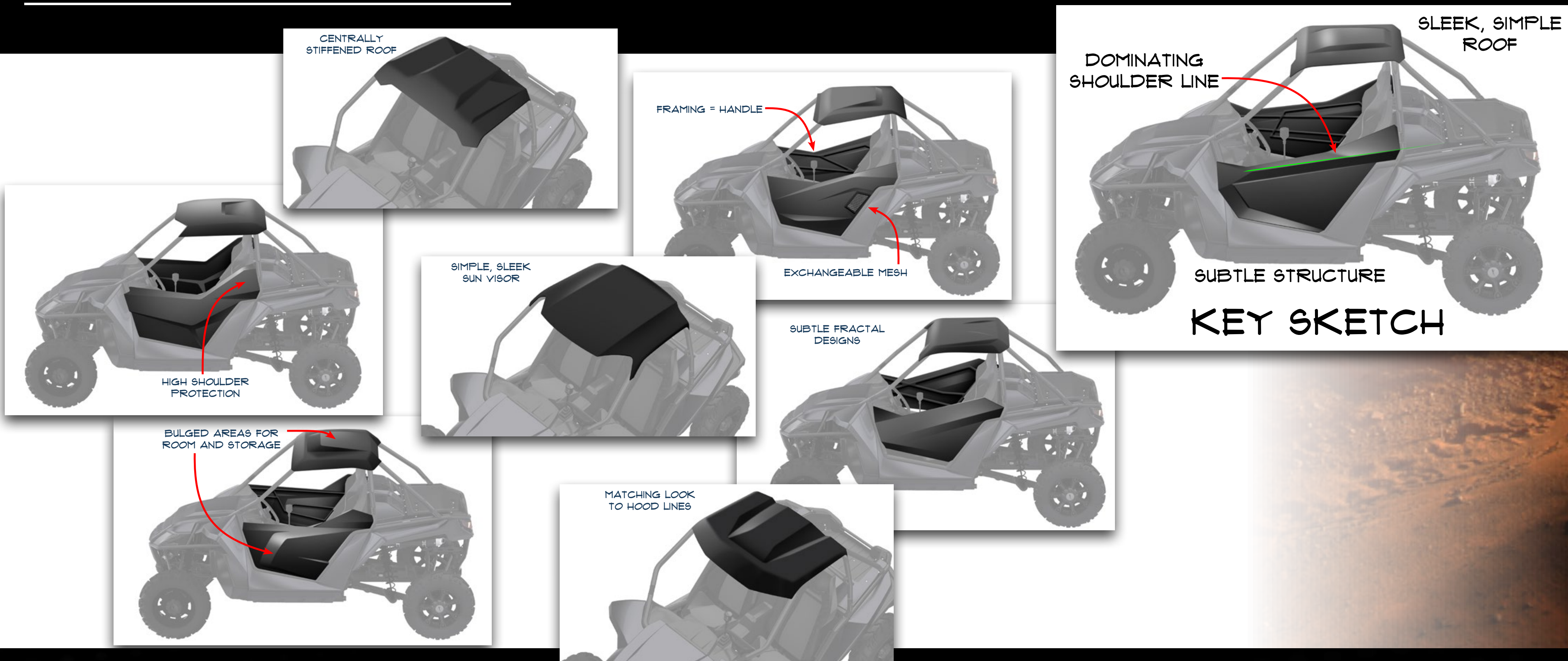
KEY SKETCH



With the Wildcat 50 coming to market, one of the most request accessory upgrades for it was the protection of the underside. We wanted to compliment the flow of the body while also tapping into the visceral and raw nature of the vehicle. The above key sketch was developed into a Production Ready version, and then before production was heavily modified by the AC Internal Engineering Group in fear of improper sliding characteristic, despite tests.

Wildcat 1000 SE

Cool Protection that Lasts



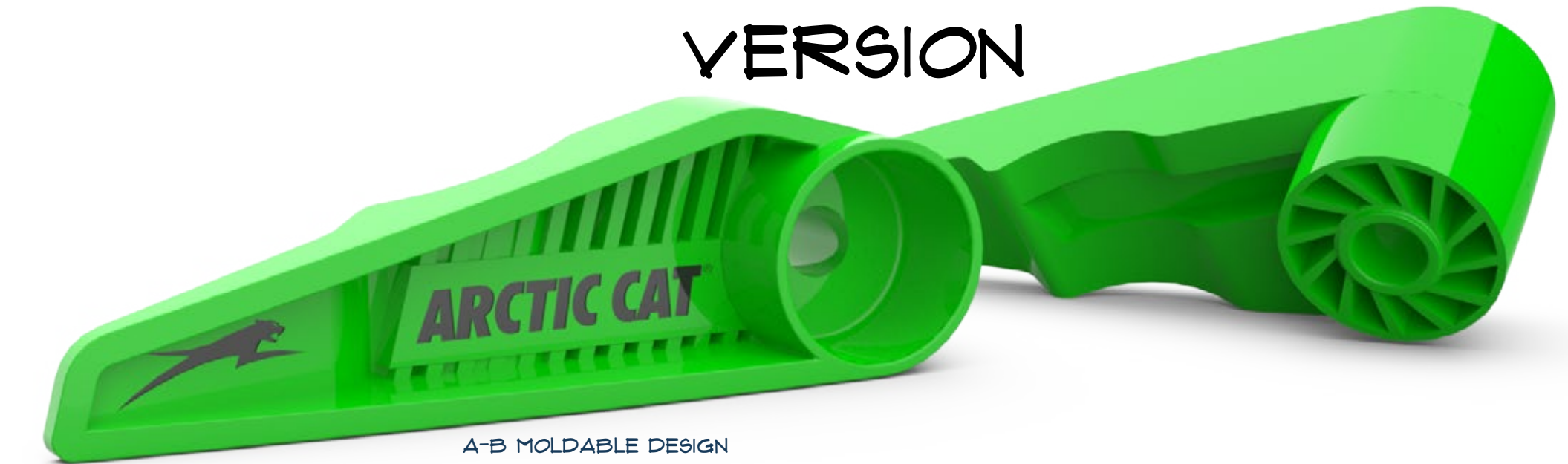
One of the first pieces I did that made it to fast production was the 2013 Wildcat X Special Edition. This and it's subsequent parts were all designed to be sleek, light, and match the black on black graphic scheme. Only 250 were built, and the roof was so sought after that it morphed into become a full-line item as a Low-Profile Sport Roof.

Wildcat 1000/2+4

Roofing Design and Security



PRODUCTION VERSION



A-B MOLDABLE DESIGN

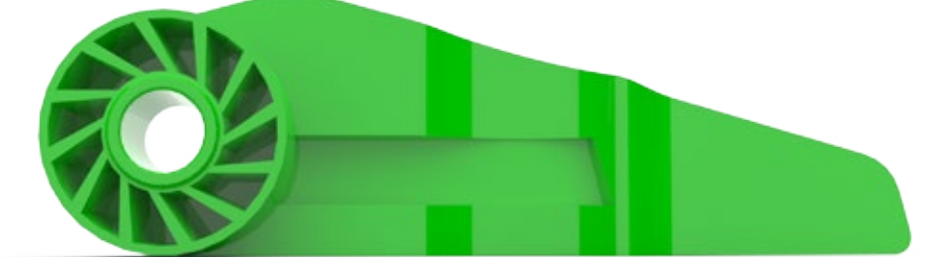
SPLIT LINE RIGHT
AT PART CENTER

TAPERED OFF
GRIP FOR COMFORT

FLEX BUILD IN TO
SNAP OVER TUBING



STIFFENING RIBS
BROUGHT INTO LOOKS



STRESS RELIEVING
RIB DESIGN

One of the best selling roofs in the company history; the above Low-Profile Sport Roofs are a favorite in the AC World, with everyone from the Dunes of Arizona to the Boundary Waters wanting them for their Wildcat X and 4. I led the team that designed, engineered, and coordinated the production of the product line. In addition, I designed, engineered, and coordinated the production of the above securing handle, with is now standard attachment for all Arctic Cat roofs

AC Handguards

All Model Hand Protection



One of the largest projects I undertook and executed at Sportech was the handguard revision for Arctic Cat and Yamaha. The current hardware was simple, but prone to bending and cracking after heavy use, especially in the winter. We focused on designing these to work for both ATV and snowmobile applications, looking to unify languages and improve the protection of the rider.

AC Handguards

Innovation, Revision, and Function



After finding our theme, we focused on the development of the system overall. Creating an assembly based around quick, flexible connection and durable constructions, we developed the above Alpha Model that was put through rigorous testing. During this development, we also created a back sprayed, clear insert that an LED strip could be integrated into for addition lighting at night, as well as emergency or turn indication. This piece is still in development to market.

ATV Protection

Mudguards, Underbody, and Wind



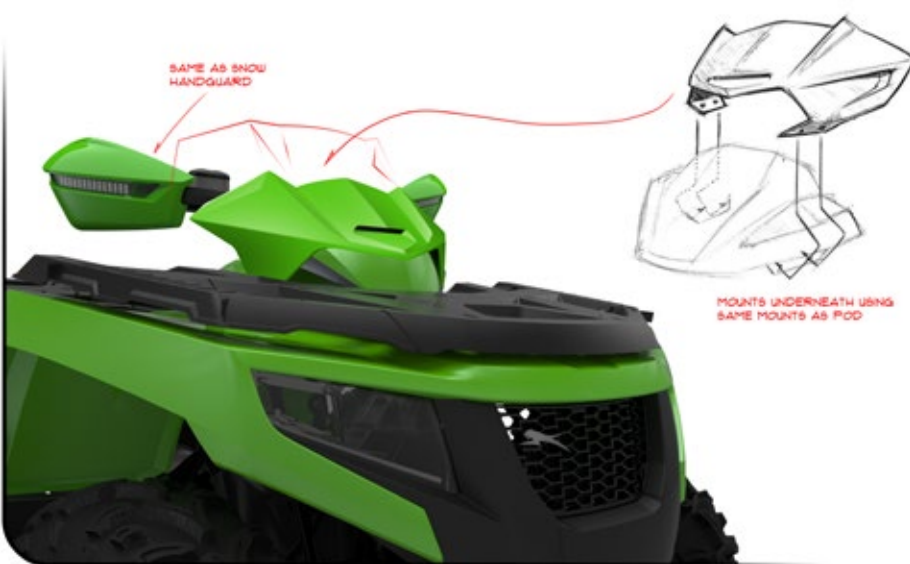
As Arctic Cat worked to revamp their ATV line with the P-151 designate chassis (later known as Alterra), we developed countless concepts around rider comfort and function. The idea of all of these was to create a unique, but functional aesthetic to match the new Halo vehicle from AC. All parts were designed to be easily manufactured, sourced, and customized for the customers needs.

ATV Pod Replace

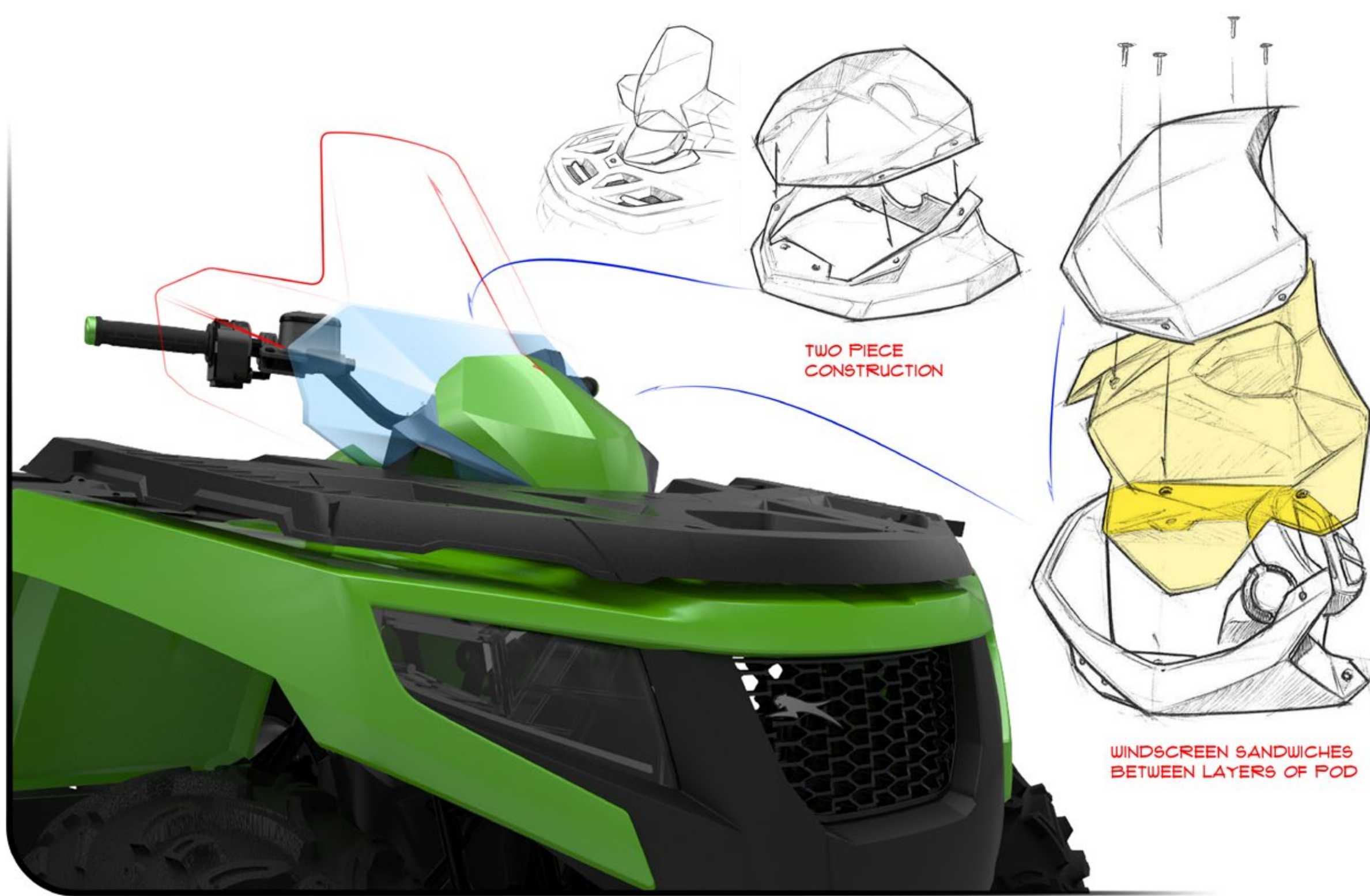
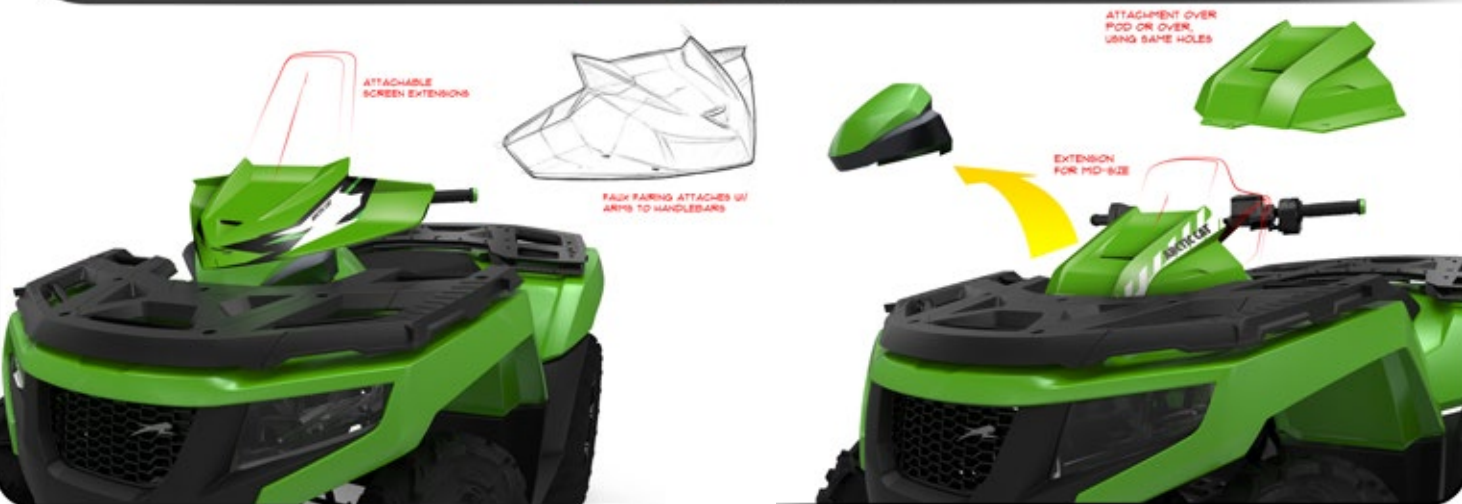
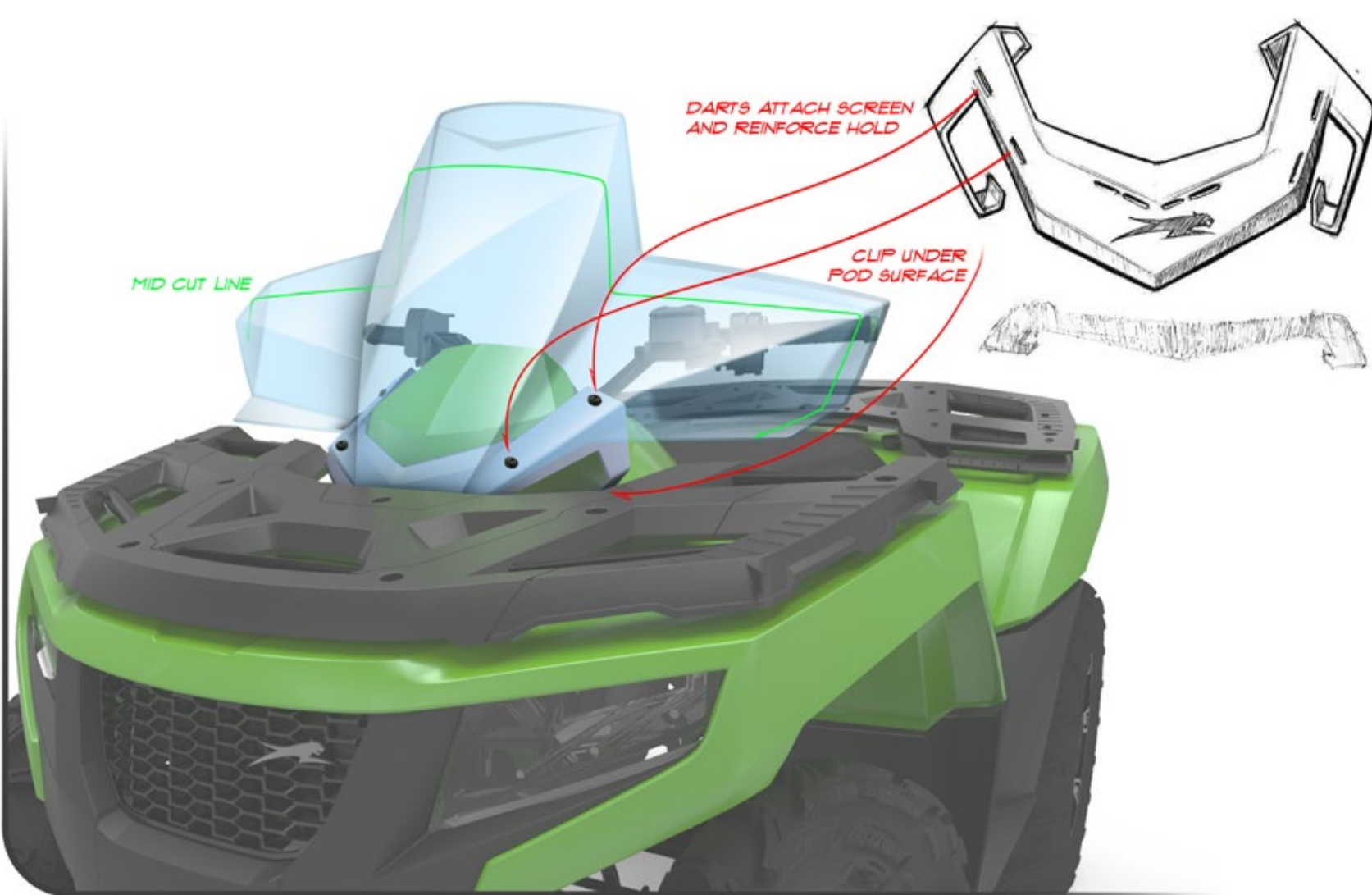
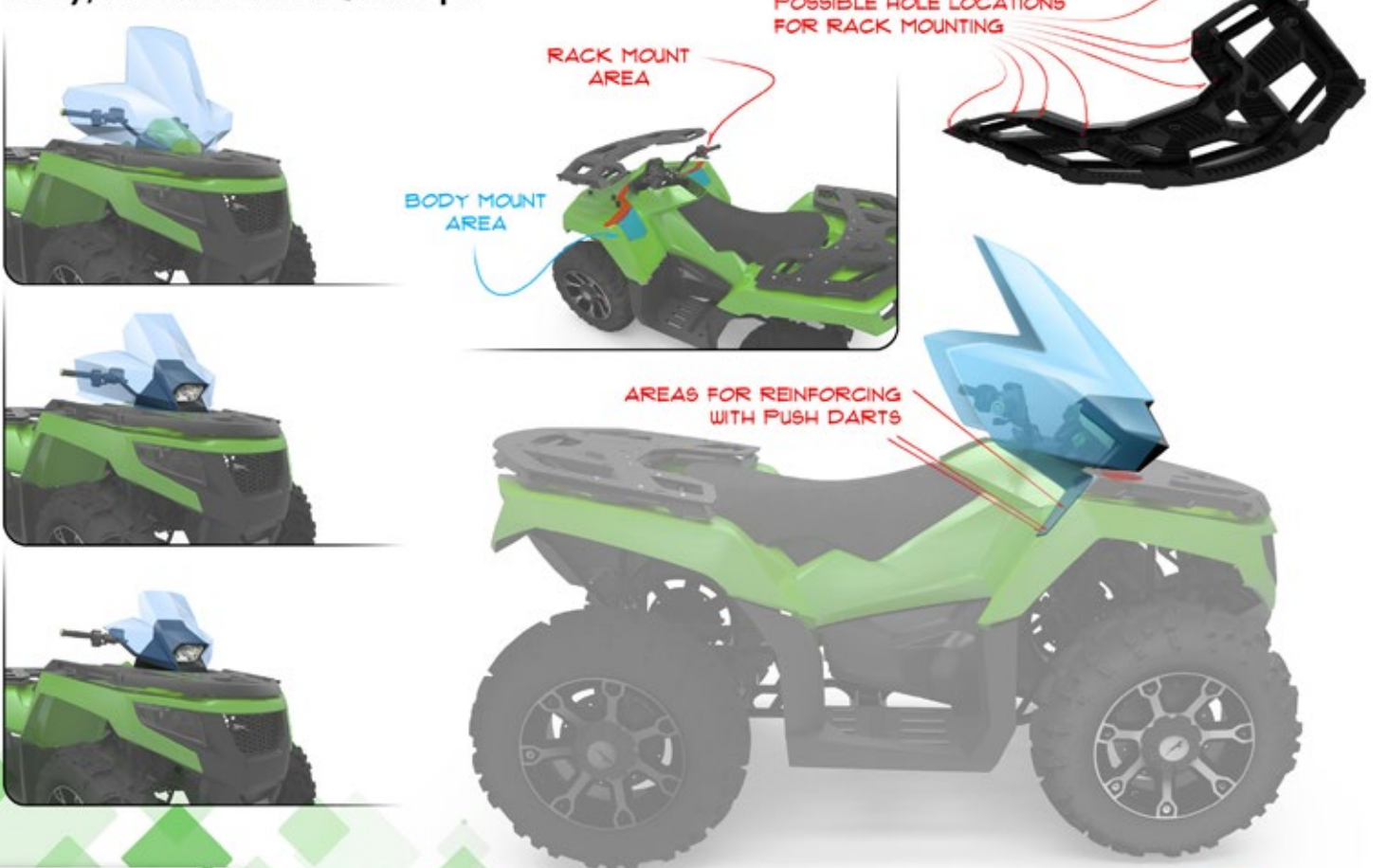
Concept Ideation & Innovation



Handlebar Mounted Fairing Concepts



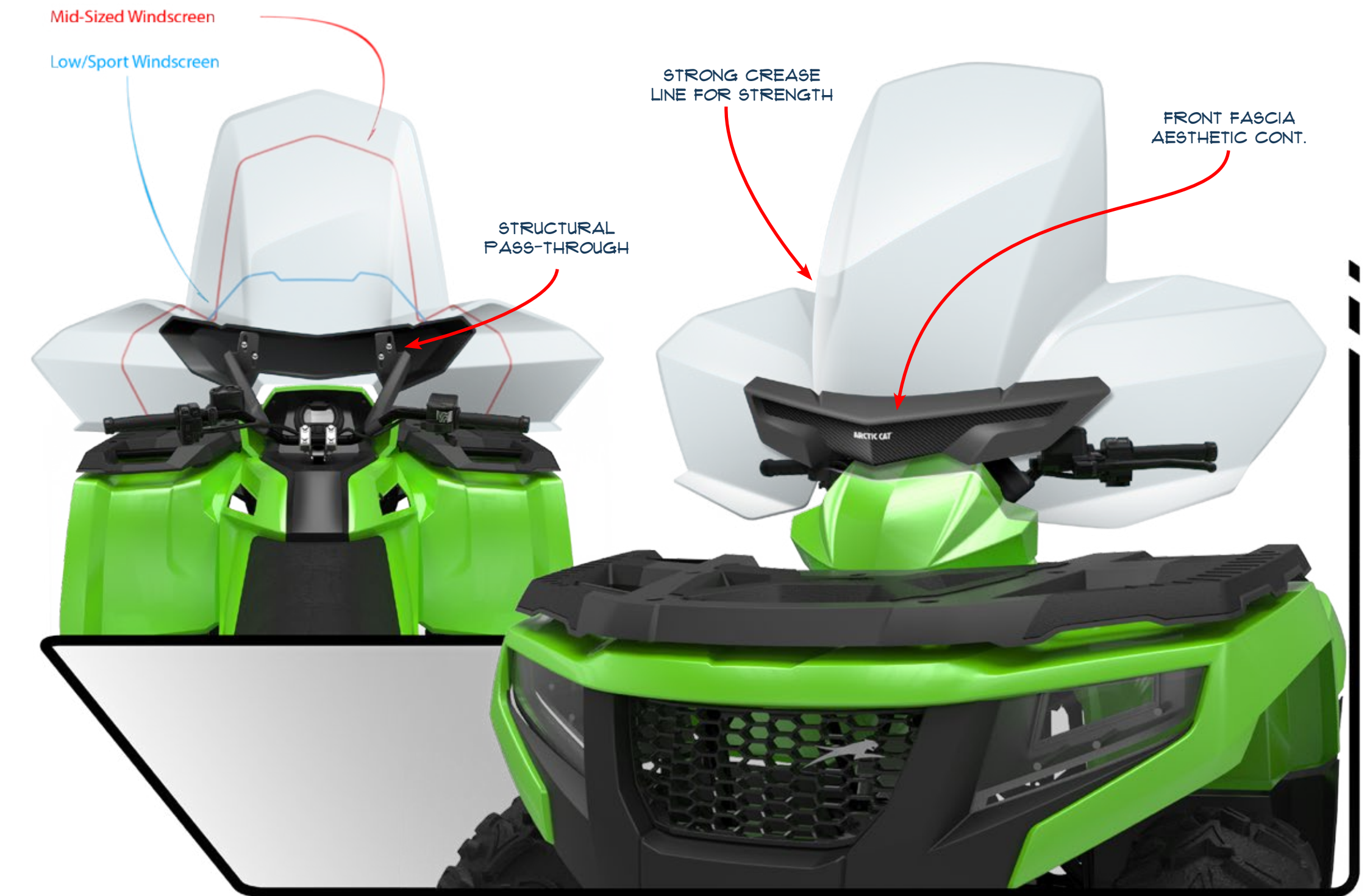
Body/Rack Mounted Concepts



During our development of the accessories and windscreens for the P-151 chassis, we were asked for suggestions of replacements or accent to the central pod of the HUD. We focused on everything from simple clip under, low profile shield to fully featured fairing that completely blend into the aesthetic and for of the vehicle without hindering use of the front rack system.

ATV Windscreen

Concept Ideation & Innovation



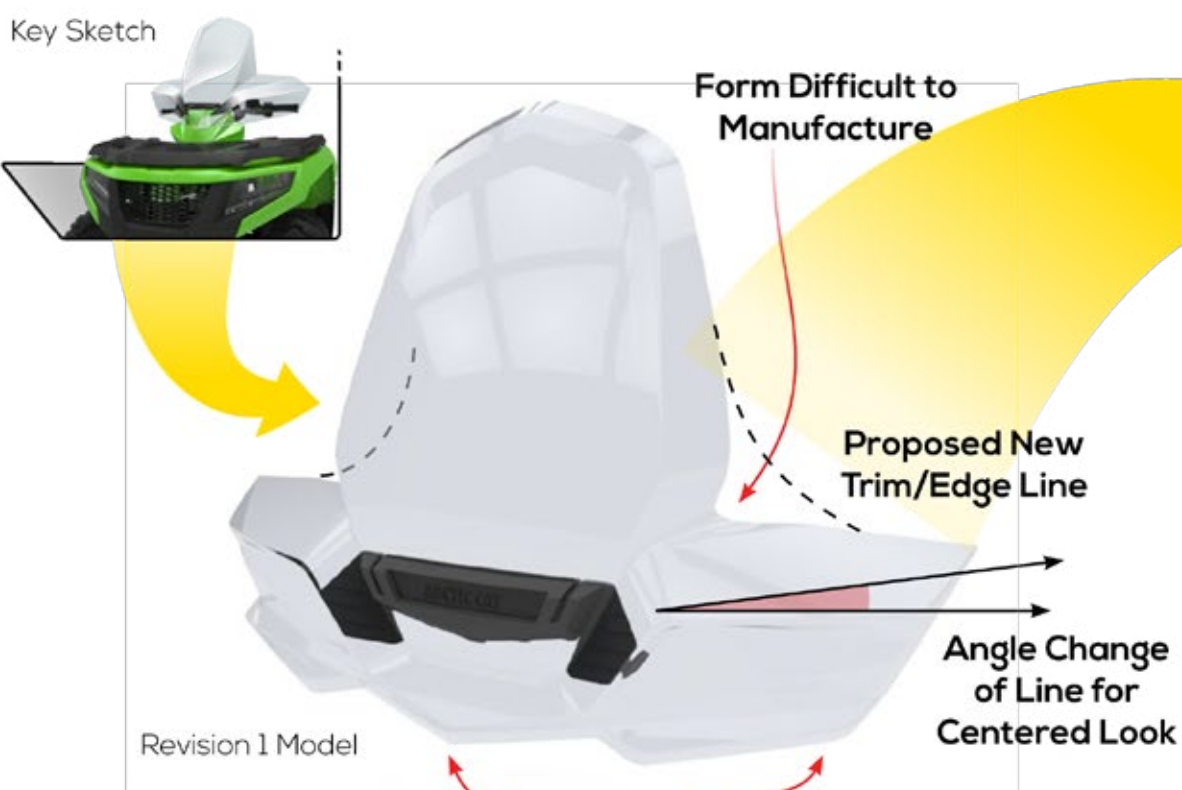
In addition, we were asked to explore windshield options for the Alterra chassis that would be a significant improvement over the outgoing model. Rider and Tester feedback indicated that the previous generation shield wobbled too much (even at idle) as well as it seemed to create a vacuum that collected dust into the riders visibility. These were primary focuses for the project, and were addressed in new and innovative ways.

ATV Windscreen

Production and Wind Flow Revisions



Translation to 3D

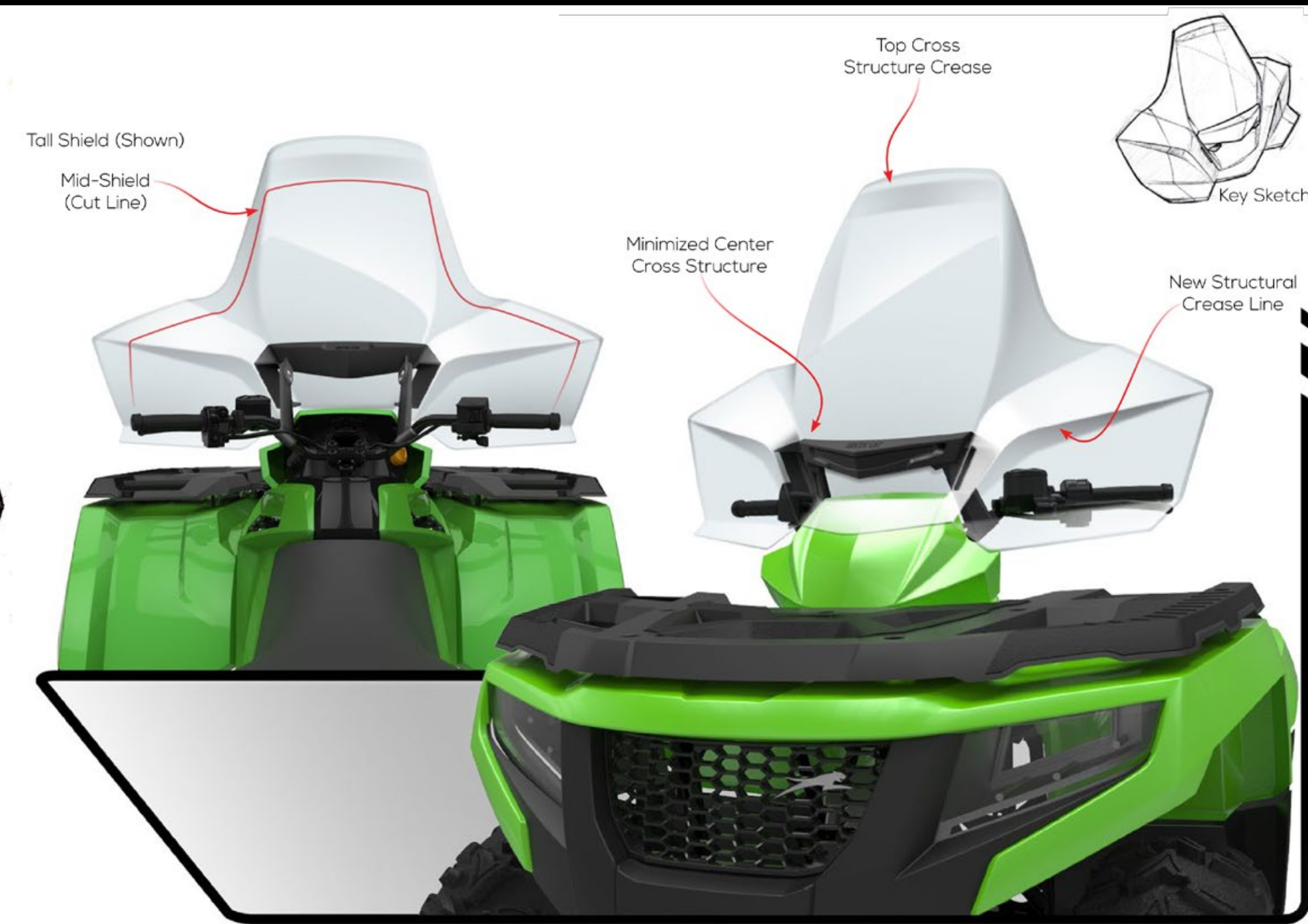
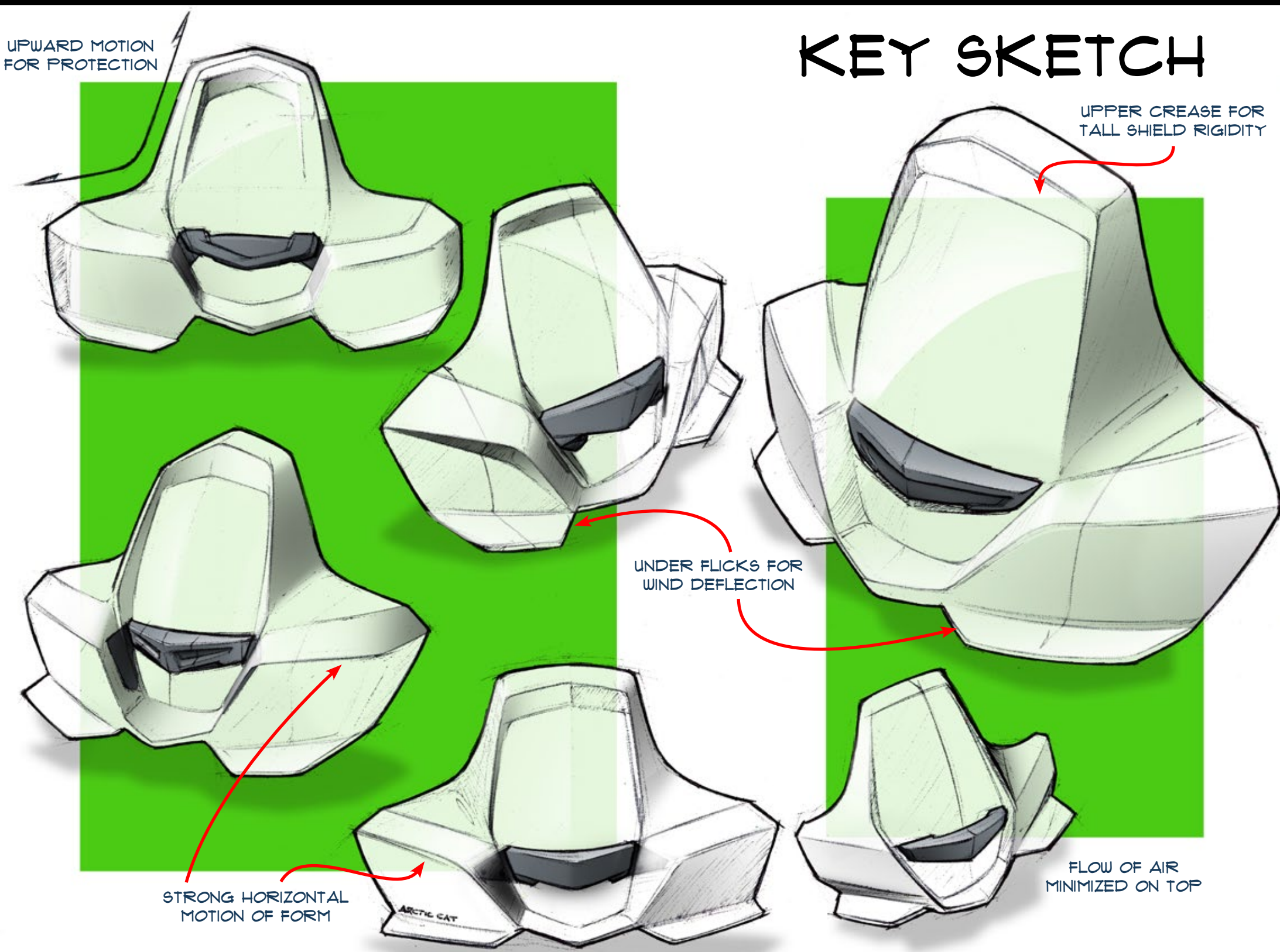
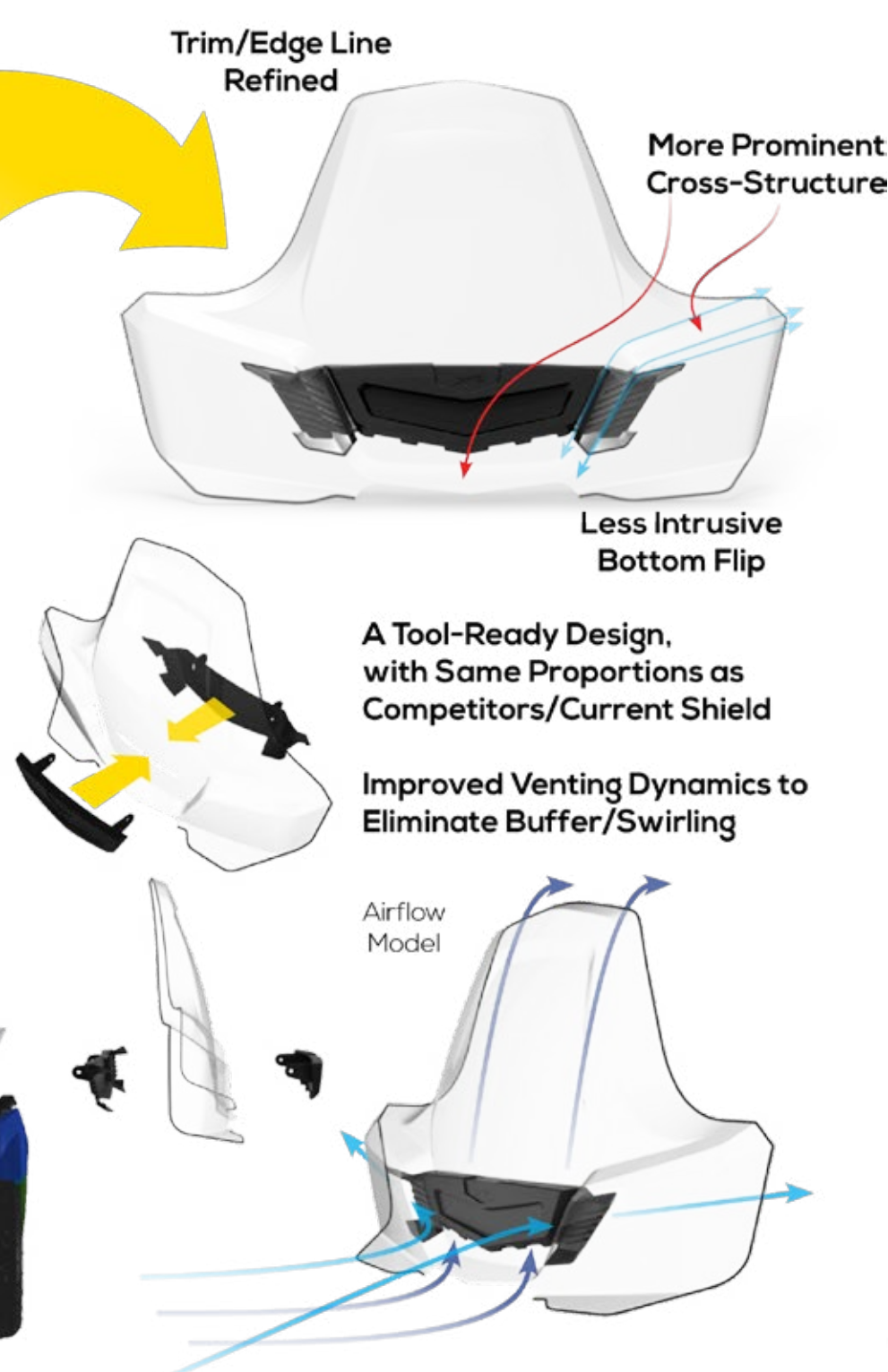


Revision Notes

- Fix Proportions to get Better Rider Coverage (Compare w/ other models)
- Use Centralized Mounting, make as Tool-Free as Possible to Adjust
- Revise and Export in tight timeline (1 week) for Help in Quotation/ Clearance Check of Front Rack Bag



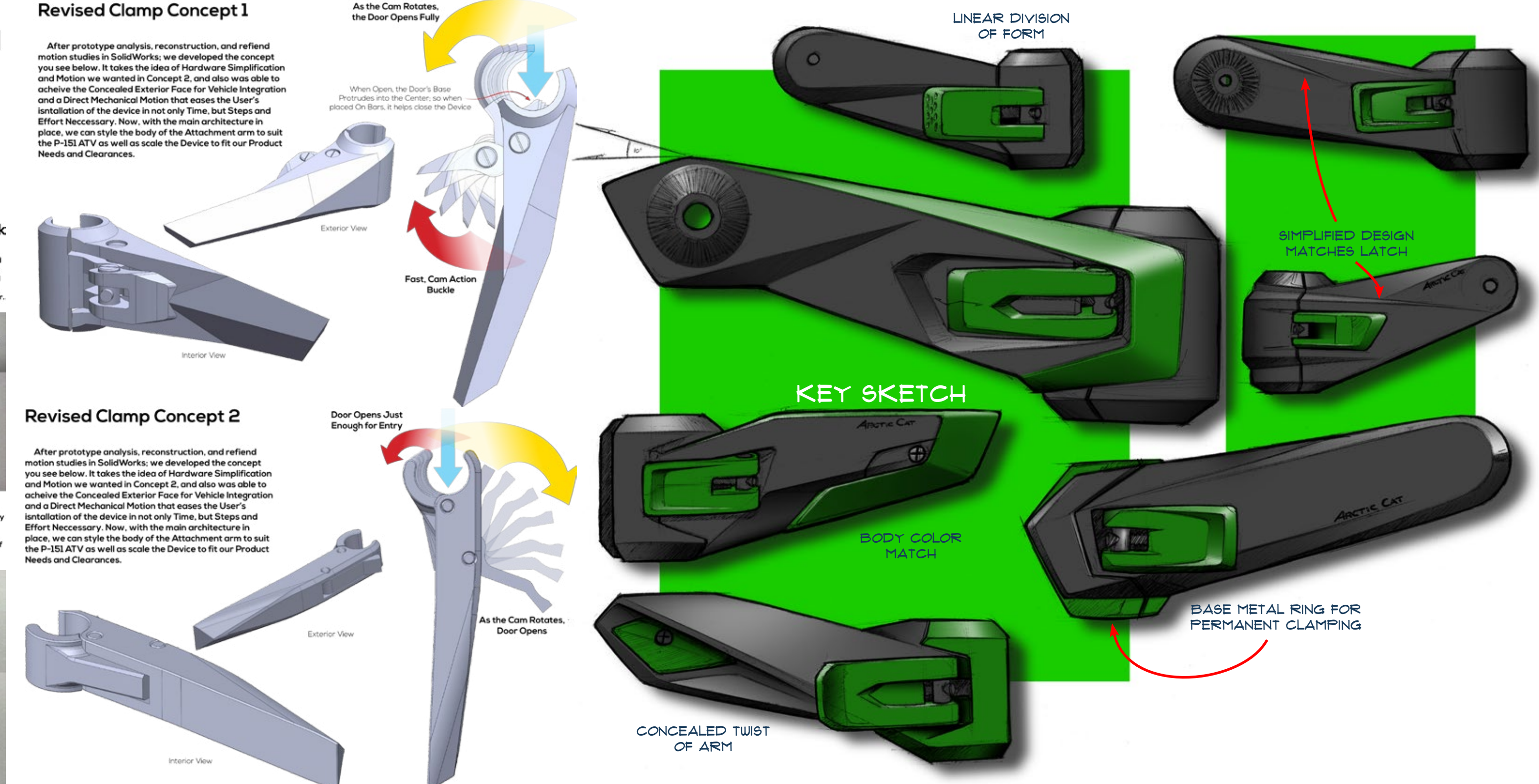
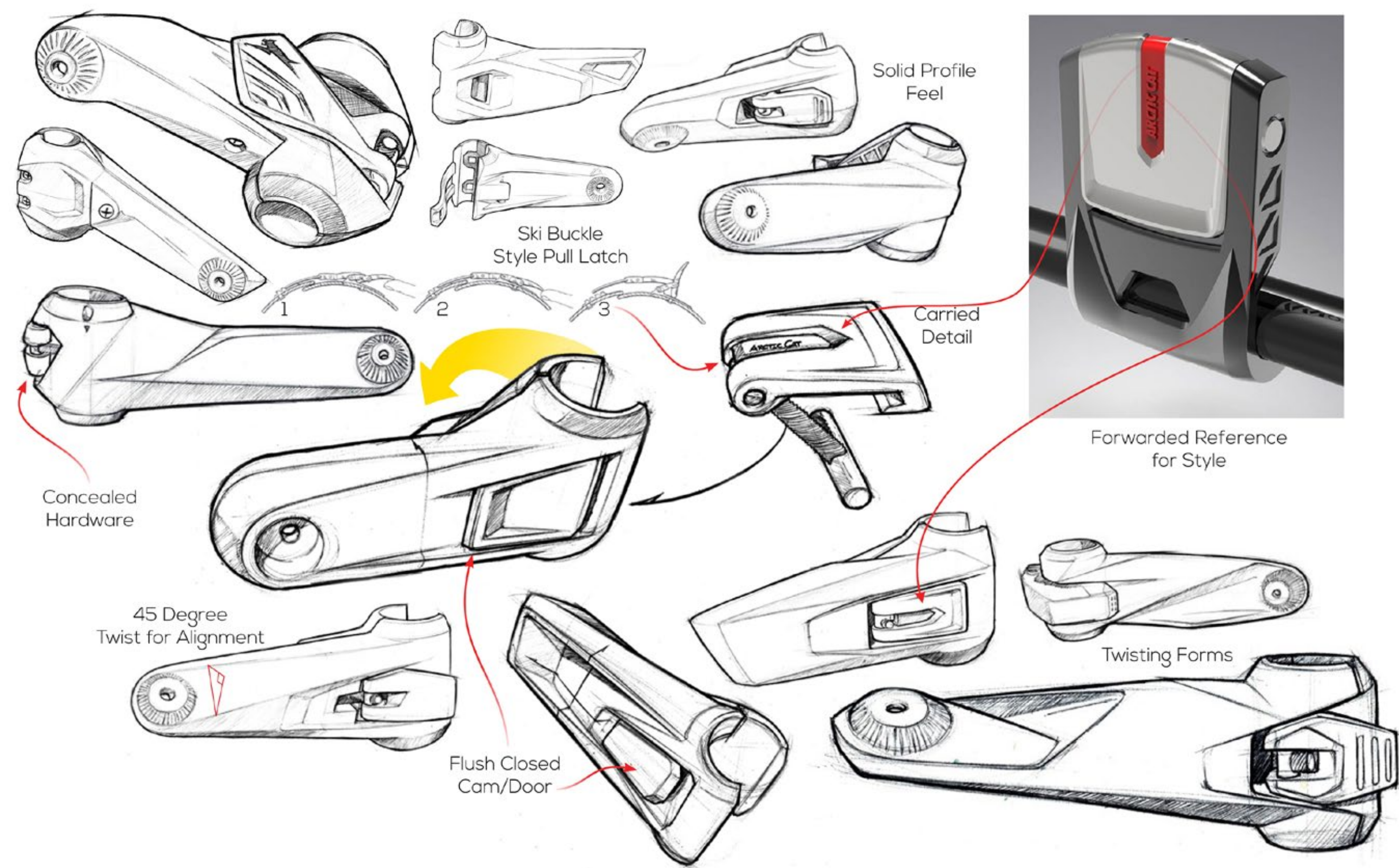
1 Week Revision



After finding our initial direction, we jumped into the CAD space to ensure proper movement, depth, and rigidity in the forming of the part. This gave us many insight, and in development I discovered that because of the rigid vertical lines that were placed within the form, we could cut holes in strategic places within the shield to negate pressure, keep the rider's view clear, as well as add to the stability of the windscreen at higher speeds.

ATV Windscreen

Innovative Connection and Function



During the development cycle, I challenged myself and our engineering team to develop a single step connection to the handlebars. After 3 rounds of sketch concepts, 10+ theory models, and 4 prototypes, we were able to develop a secure mount that required only 5 parts. We then found in our research that by twisting the end of the mounting arm, we would not only get better alignment to the shield's connectors but also reduce stress in the parts with less plastic overall.

ATV Windscreen

Refinement, Engineering, & Final



Taking all of this knowledge, we able to develop a tunable and industry first ventilation system that mounts quicker than any other mount on the market. Most of the concept CAD I developed made it into the production parts, with the exception of the arms, and is available in two versions on the market today.

Quick Products

Other Products Brought to Market



Additional Product and Graphics

- Evaluate the Consumer Base and their Desires when Mounting Flat Screen Televisions
- Define and Refine a New Brand Language for Components
- Work with Engineers to Develop Functioning and Robust Designs
- Define Production-Ready CAD, Color, Material, and Finish Sheets

June 2009 to Present; Numerous Companies via Internship, Employment, and Independent Contractor
Roles: Industrial Designer and Design Direction

Hasbro 'Live'

The Smart Gameboard



During my internship at Hasbro during the summer of 2009 and into my employment at Lava Design, I worked with Hasbro and the Board Games divisions to develop what would later become the Live Tower. It's a battery powered tower that uses a small camera to track the game pieces and movements to direct the game play, introduce mini-games & challenges, along with leveling game-play between different ability levels.

Tiger Electronics

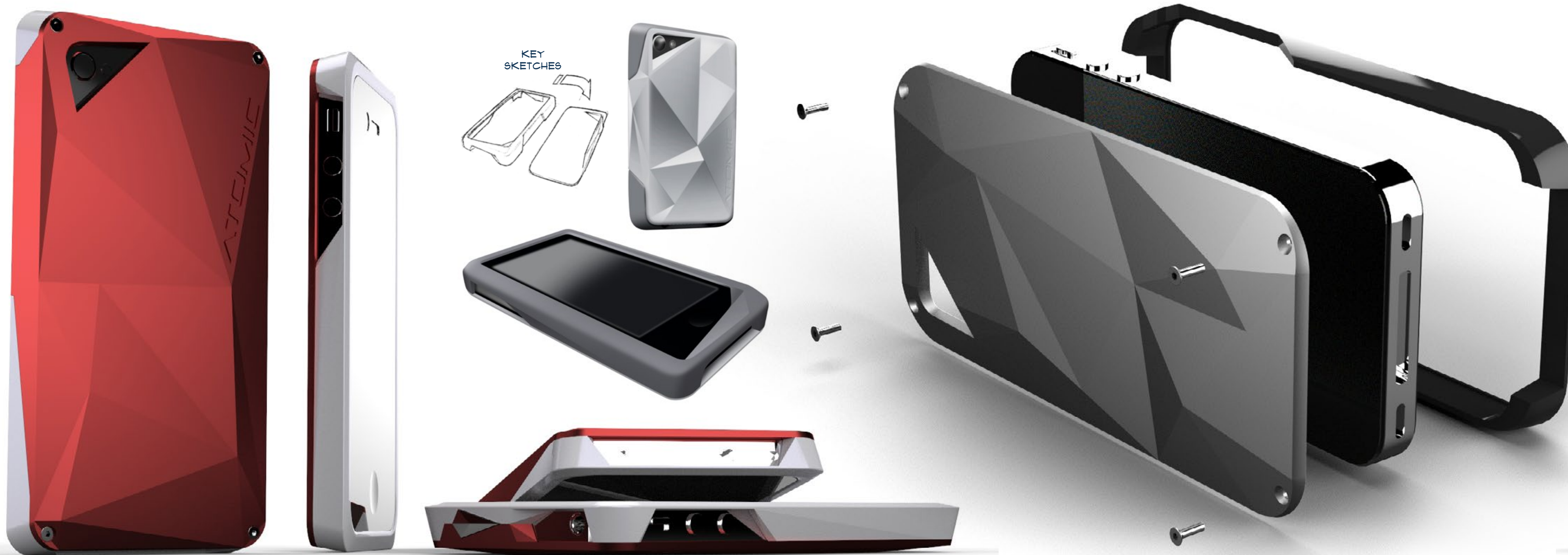
Advanced Design Thinking



Another facet of my relationship with Hasbro was the development of Tiger Electronics concepts for internal proposal, most advancing the brands within the Parker Brothers and Milton Bradley Family. These included modernizing the Trivial Pursuit, Clue, and Scrabble game-play through new ways of interaction; as well as creating new consoles or high-end build sets for The Game of Life and Clue.

Atomic Diamondback

Hard Case for iPhone 4 & 4s



One of my first products to make it to market, the Diamondback was a radical departure in form and function from the Atomic Product line. Their first case to fully enclose the iPhone, this piece different from it's inCase and other brethren by sitting flat on the table with hidden facets, didn't create glare (even with flash) during photo capture, and fit both iPhone 4 and 4s straight out of the box without sacrificing look or function.

HID Global

RFID Card Production Update



At Kablooe Design, we worked on developing numerous outer housings for their lines of RFID Card Machines. I was tasked with revising the visual character of the front fascia, as well as redesigning the main Hopper for the larger production model. This involved over 15 studies for each, and then designing each to match the visual character and fits of over 10 models that would share the parts.

Polaris Lock-N-Ride 2

Proprietary Attachment Development



At Sportech, I was tasked with developing a new way of quick attachment for our customers. Some branched into production platforms (like Arctic Cat's windshield) whereas others have stayed concepts for the time being. The above is the most advanced concept, based off principles in Vice Grips, allowing 1-Step attachment (quickest in the industry) with easily manufactured metal and plastic parts that can work for a variety of tubing sizes.

Polaris Next

Roofing & Cab Designs for Next Gen.



Shown above were several advanced concepts, utilizing Sportech's newly acquired Twin-Sheet forming technology. These allow for various sections to be closed off to one another, compartmentalizing Electronics and other pieces separate from HVAC and Air Flow channels in a less expensive package than Injection Molding.

Advanced Concepts and Sales

Various Accessory Development



During my time at Sportech, one of the largest marketing pieces that I was a part of was the sales effort to acquire John Deere as a working partner and Tier 1 client. With 1 week's worth of time, I was able to craft over 30 concepts of varying levels of equipment, covering consumer and agricultural product lines that we could assist with. This ended up becoming an over \$25 Million account for the company.

Towards the end of my tenure, Sportech acquired the accessory business in the revival of Honda's side by side. I specifically helped to develop the main concepts for the Rear Storage and Cab Doors, which were widely loved within Honda Internal. However, despite leaving production ready CAD with full spec-sheets and part lists, the design was modified and altered to the above production example.

Capital Safety

ExoFit Strata Line



From Sketch Phase to Technical Drawing Export, I worked as the Lead Visual Developer for the ExoFit Strata. This update focused mainly on installing a stay on the rear of the harness with a mesh support, to take strain off the upper sections of the back and redirect them without sacrificing movement. Many of the currently illustrations appear in the Instruction Manual.

Kinetic Road Bag

Compact Stem/Seat Storage



One item that was introduced to market, and stalled due to manufacturing conflicts, was the Kinetic Road Bag. A sleek, compact two piece shell (coming in two sizes) fit tightly underneath even the thinnest of road seats and holding more than just the essential for the rider on the go. The pack installs easily, sliding into a dovetailed track that snaps it into place securely, resisting movement in high intensity riding, yet still being easy to remove and carry.

IDL Testing Rigs

Advanced PCB Housings & Testing



Pictured above are varying PCB enclosures, testing rigs, and advanced optics concepts that were done in conjunction with Innovative Design Labs; an advanced electrical and programming firm here within Minneapolis. These concepts focus on high-level, government grant research projects that require precise fit, finish, durability, and repeatability.

Make Retail/Google

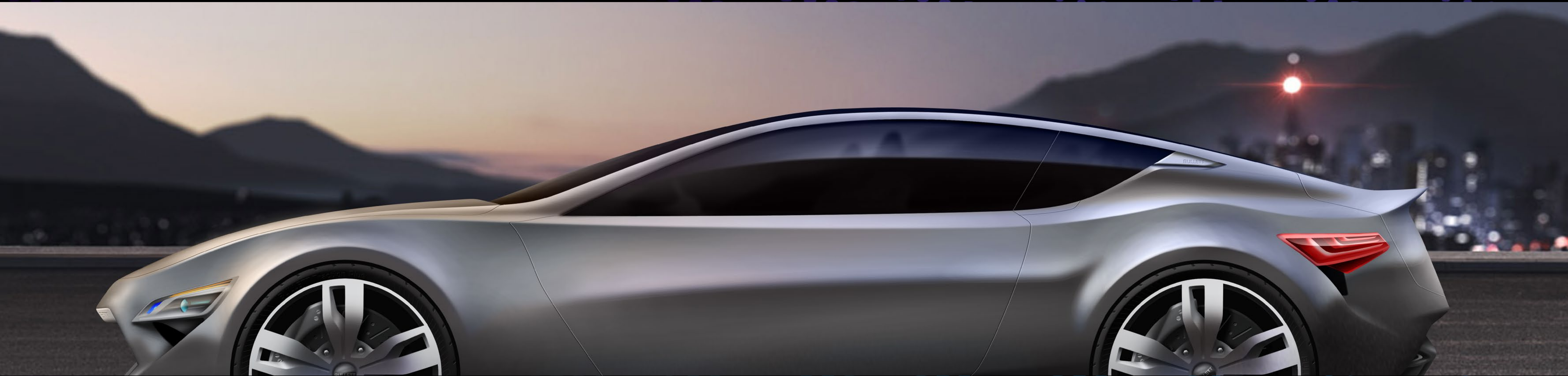
Smart Wall Cabinet Enclosure



A race to the finish, I led the task of Revising, Designing, Engineering, Assembling, and Troubleshooting the above display for the Google Digital Spray can (completion time was only 4 weeks from launch to delivery). The fixture, featured in the flagship Google Store in the heart of London, includes features such as adjustable lighting, laser key entry, anti-closure Plexi Door using laser sensors, easy replace sectioning, and an ultra-quiet pneumatic activation for entry.

Sketchbook

A Collection of Drawings & Renders



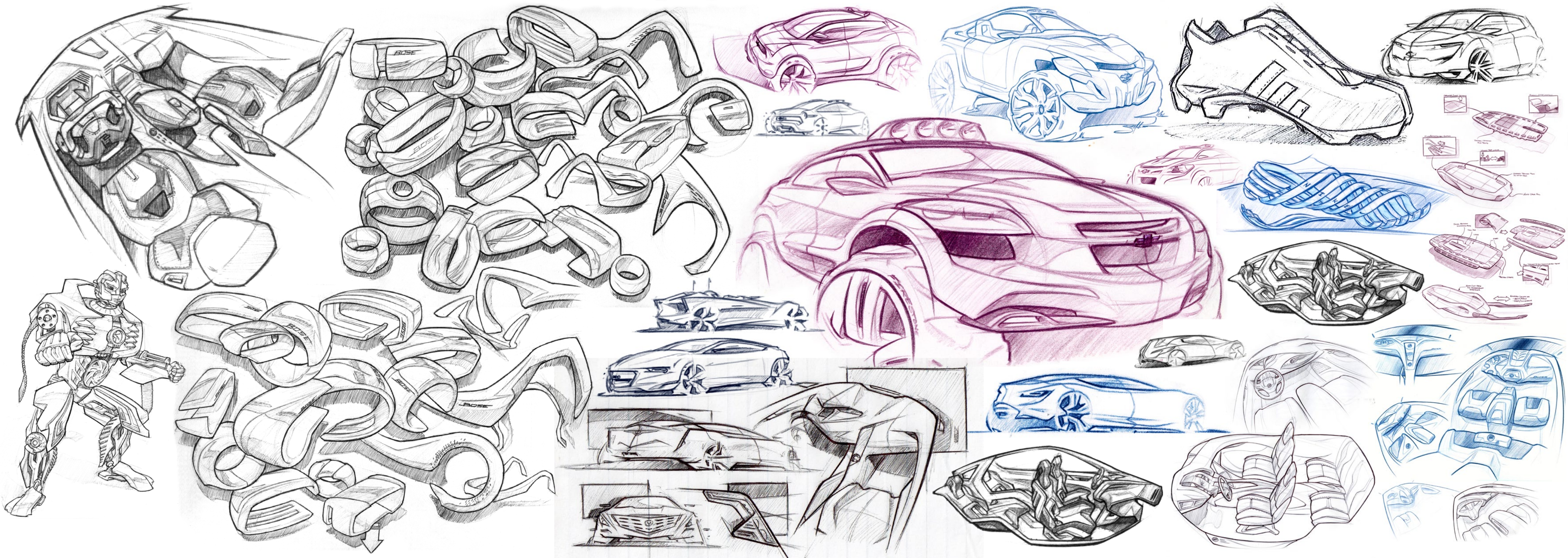
Objectives and Challenges

- Evaluate the Consumer Base and their Desires when Mounting Flat Screen Televisions
- Define and Refine a New Brand Language for Components
- Work with Engineers to Develop Functioning and Robust Designs
- Define Production-Ready CAD, Color, Material, and Finish Sheets

February - October 2012; became the Sanus ULF & UMF Product Lines
Role: Industrial Designer, to leading Design Direction & Final CAD

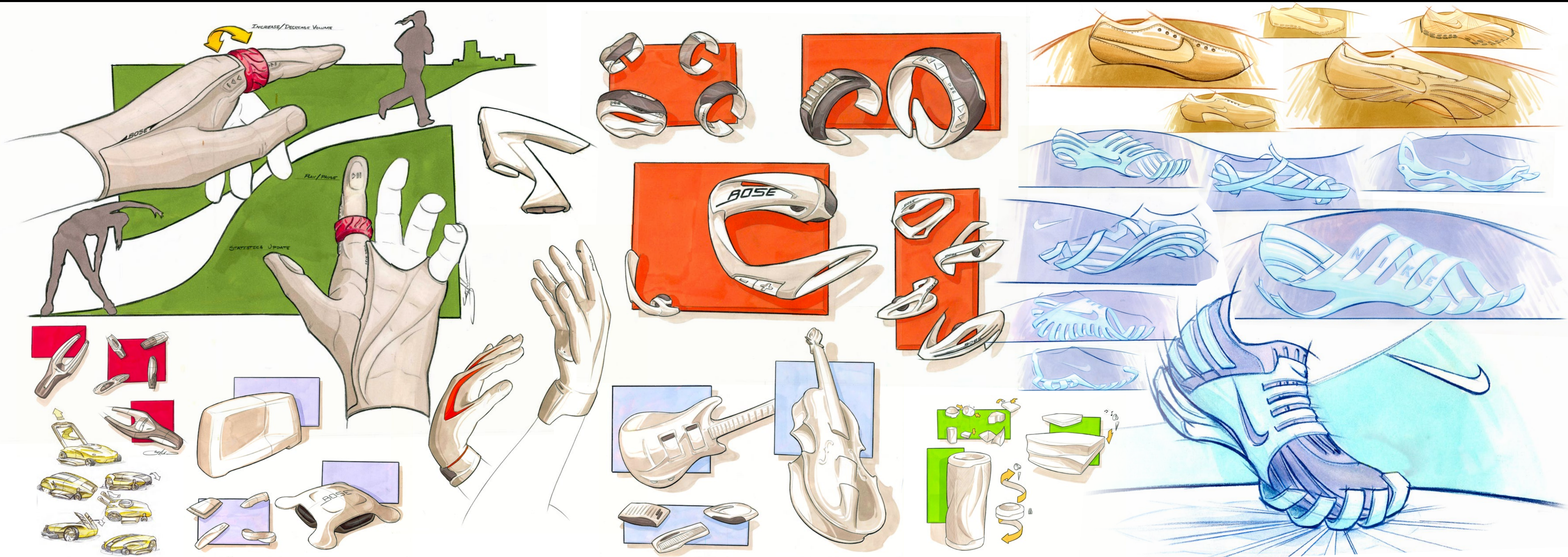
Quick Ideation

Fast-Paced Concept Sketching



Physical Media

Rendering Using Pencils, Markers, & Pens



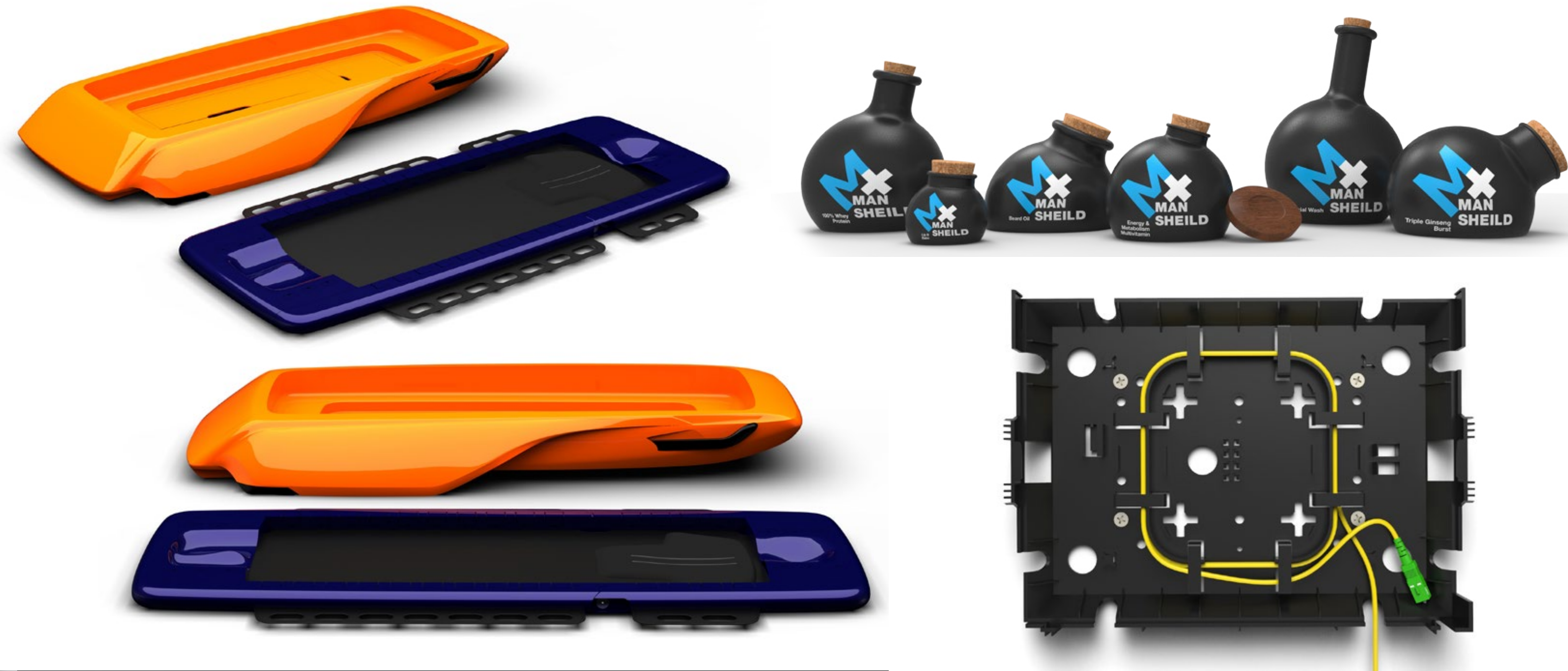
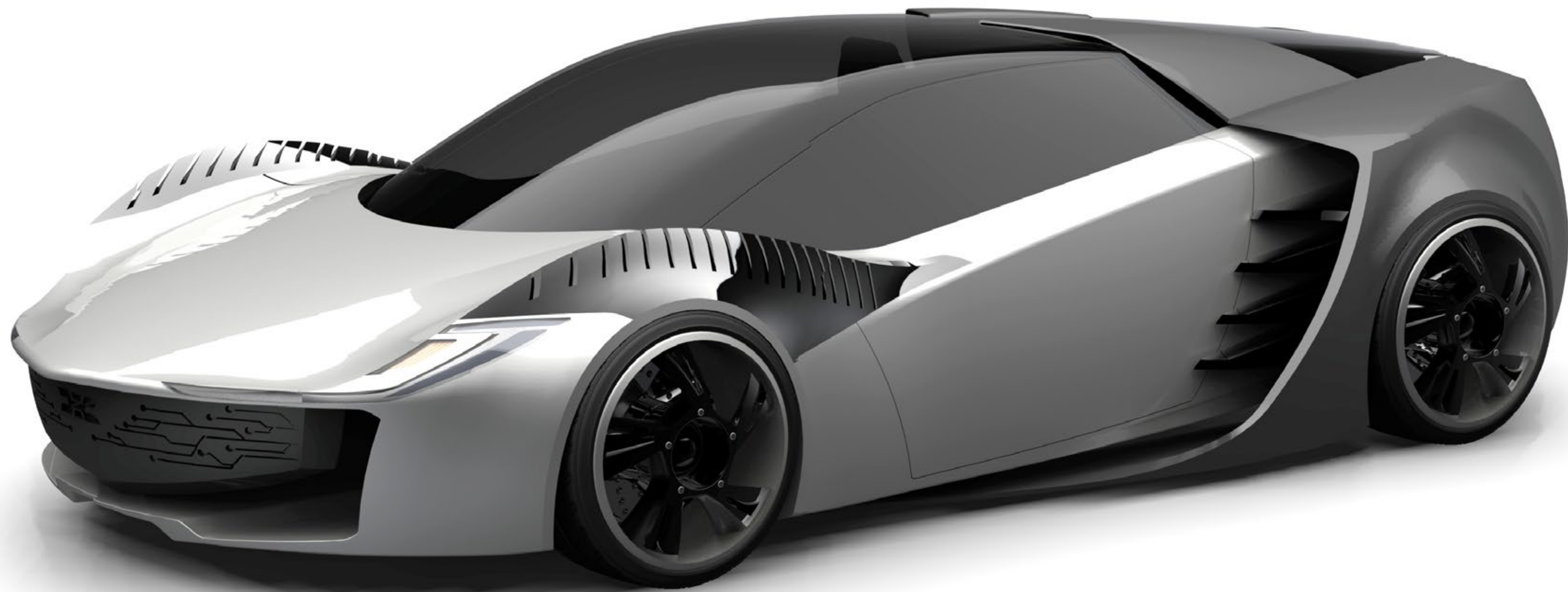
Digital Rendering

Highly Polished Photoshop Renderings



3D Modeling

Visualization and Realism



About Me

A Little Bit About the Designer



As a professional designer for over 6 years now, I've found that my biggest passion in design lies not only within the realm of designing successful product but within the ability to collaborate and share these skills with other designers and working professional. Whether it's teaching at the U of M or sitting one-on-one with a client reassuring them, I take the time to ensure a mutual understanding and passion is shared by us both in what we're doing.

Product Design itself is such a fluid movement of tasks that I equate it to one of my other passions, skiing and snowboarding: No matter how many years you've been doing, no matter the level of skill, you must always go into a new challenge reading your surroundings and staying humble. Then and only then can you truly enjoy the experience and share in it's every nuance to succeed.



Scott Melanson

Lava Design, Minnetonka, MN Senior Product Designer <ul style="list-style-type: none">• Design, Concept Development, and Engineering for Various Companies/Clientele• Management of Marketing, Website, and Outreach to Local Colleges• Management of Numerous Projects, Clients, and Employees within	April 2014 - Present
University of Minnesota, Minneapolis, MN Associate Professor/Adjunct Faculty <ul style="list-style-type: none">• Help to Write and Submit Curriculum for the upcoming Product Design Major• Assist in the instruction of Concept Sketch Introduction, Advanced Concept Development/Presentation, and Advanced SolidWorks and Animation classes	August 2015 - Present
Scott Melanson Design, LLC , Minneapolis, MN (Freelance) Founder/Lead Creative <ul style="list-style-type: none">• Design, Concept Development, and Engineering for Various Companies/Clientele• Management of Numerous Projects, Clients, and Coordination through Production	January 2013 - Present
Big Appl Labs, New York City, NY Creative Director <ul style="list-style-type: none">• Management of Marketing, Graphic Design, and Visual Properties for Several Brands• Logo and Website Ideation and Final Export for Press and Advertising• Advanced Thinking for Market Trend Analysis and Prediction	May 2012 - Present
Sportech, Elk River, MN Industrial Designer <ul style="list-style-type: none">• Design, Engineering, and Project Management of OEM Parts for the Powersports Industry• Working with clients such as Arctic Cat, Honda, BRP, Polaris, and John Deere• Team Working with Teams of Engineers, In-House and Abroad, for Class A Execution• Development of Patentable Technologies and IP for Advanced Concepts	January 2013 - April 2014
Kablooe Design, Blaine, MN Product Designer <ul style="list-style-type: none">• Concept Development and Ideation for Multiple Medical and Consumer Companies• Production Level CAD Modeling and SLA/FDM Export for Testing and Verification• Video Editing and Documentation of Work and Special Projects	January 2012 - January 2013
Lava Design, Spring Park, MN Product Designer <ul style="list-style-type: none">• Concept Development and Engineering for Various Companies/Clientele• In Charge of Marketing and Promotional Materials for Lava as a whole• Starting company relations between Major Clients like Hasbro and Capsule	June 2010 - December 2011
Hasbro Inc., Pawtucket, RI Product Designer - Game Design <ul style="list-style-type: none">• Concept Development and Ideation for Parker Brothers and Milton Bradley Brands• Brainstorming and Play Testing Various Emerging and Current Games for User Experience• Presentation Illustration, Assembly, and Support	Summer 2009
Education	
Cleveland Institute of Art, Cleveland, OH BFA in Industrial Design (Automotive and Product Design)	2006 - 2010
Wentworth Institute of Technology, Boston, MA Associates Degree in Industrial Design	2003 - 2005



Thank You
Scott Melanson - 2016