

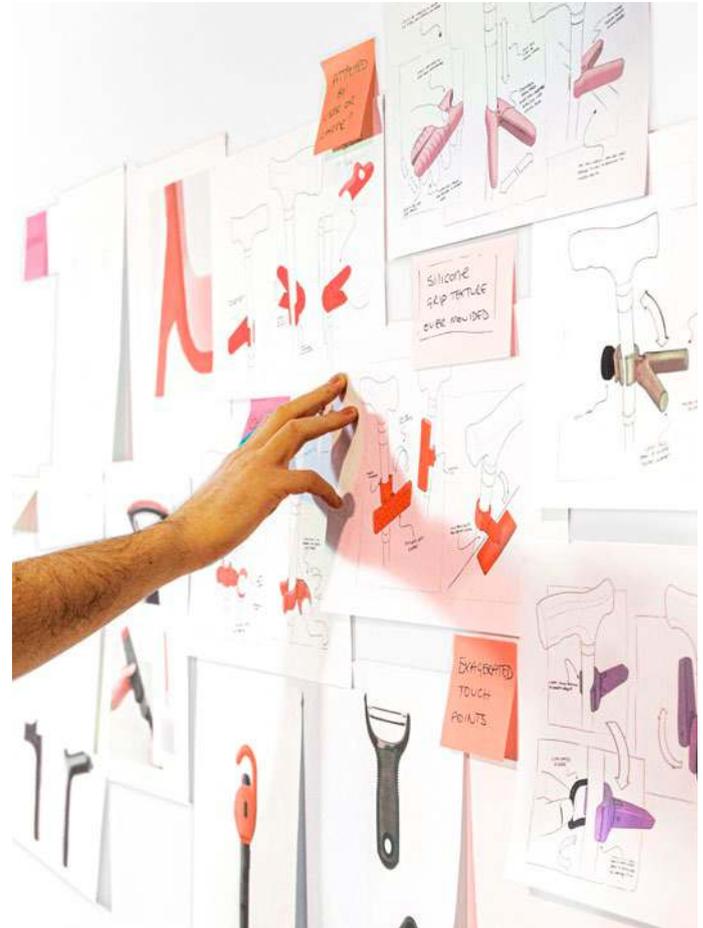


LUMA-iD is a multi-award winning team of designers and engineers. We work with startups and SMEs, to some of the worlds most exciting consumer and marketing brands to create physical products.



We apply our product development expertise to a multitude of sectors; from medical tech and consumer electronics, to industrial and construction equipment.

Every project is unique and requires adaptability. We have developed a modular process which allows us to deploy the required skills and expertise in an organic and lean process catered to the clients projects needs.



We sketch to exchange ideas. Depending upon the project these sketches can be raw and purely communicative, or realistic to the product.

The only way for us to work is to get our hands dirty. 3D printing, sketching, rig-building and prototyping are all go-to techniques that help us define and refine.

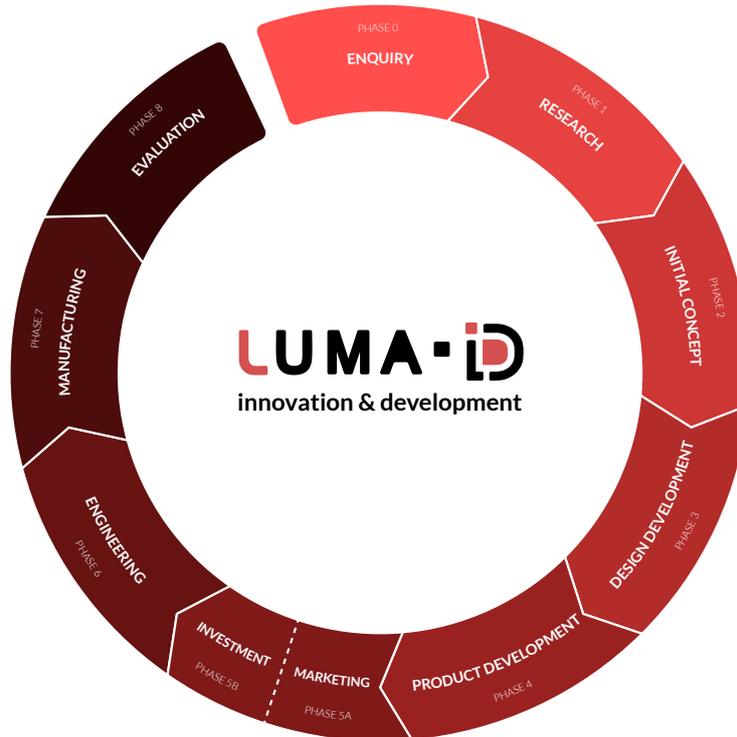
Our multi-disciplined team are experts in a range of 3D CAD programs. We use these programs throughout the process to ensure our ideas are realistic.

Later in the process, we use the software to create manufacture-ready surfaces which can be sent directly to our network of suppliers.



The LUMA Methodology

This carefully constructed design process is a **guide** which allows us have an holistic approach to any design project. (Note: The design process may vary from from project to project.)



The LUMA Methodology

PHASE 0 – ENQUIRY

Intent: Feasibility of conducting project

Client proposal

Timelines

Budget

Assigned designers

Outcome: Quote/Invoice

PHASE 1 – RESEARCH

Intent: Define the problem

Questionnaires/Surveys

Focus groups

Market research

Ethnography and Observations

New technologies

Research existing products

Precedent

Design Issues Diagram

Future forecasting/Zeitgeist

Mindmapping

User profiles

Problem statement

Outcome: Research presentation

PHASE 2 – INITIAL CONCEPT

Intent: Define a design direction

Brand DNA analysis

Moodboards

Mindmapping

Purchasing existing products

Thumbnail concept sketches

Product Design Specification

Design Brief

Outcome: Design intent presentation

PHASE 3 – DESIGN DEVELOPMENT

Intent: Develop a feasible product

Existing product teardowns

Standards

CMF

Information sketches

Context/usage sketches

Technical sketches

Hi-Fi coloured sketches

Lo-Fi Rapid prototyping (Foam & Card)

Experience prototyping

Intellectual property

Outcome: Evaluation presentation

PHASE 4 – PRODUCT DEVELOPMENT

Intent: Refine product details

Reverse Engineering

3D CAD modelling

Rapid prototyping

Supplier liaisons

Proof of concept prototype

Aesthetic prototype

Outcome: Prototype presentation

PHASE 5a – MARKETING

Intent: Create public attention for product

3D Visualisations

Photography

Videography

Outcome: Media for pitches and adverts

PHASE 5b – INVESTMENT

Intent: Raise funds for manufacturing

Crowd funding

Angel investors

Outcome: Investment capital

PHASE 6 – ENGINEERING

Intent: Designing for manufacturing

Detailed CAD design

Bill of Materials

General assembly drawings

Technical drawings

Supplier liaisons

Custom electronics/mechanics

Pre-production prototype

Outcome: Testing and evaluation

PHASE 7 – MANUFACTURING

Intent: Production ready products

Assembly instructions

Quality control

Logistics

Shipping

Outcome: Products ready to sell

PHASE 8 – EVALUATION

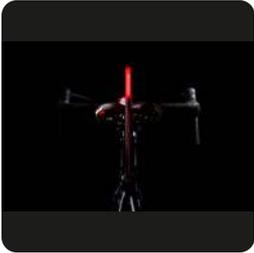
Intent: Improvements for next version

Public feedback

Cost optimisation

Outcome: Feasibility of conducting project

Contents



L-Bow
(Rear bicycle light)



ArcX
(Smart sports ring)



L-Bow
(Front bicycle light)



2iC Assist
(Military device)



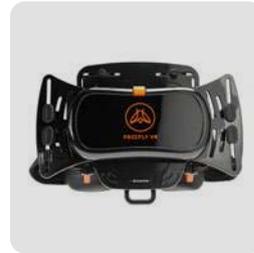
Ichthion
(River cleanup)



Rideout
(VR Bike simulator)



Scaffold coupler
(Construction accessory)



Freely
(VR Headset)



Ciroc Sleeve
(Light up bottle holder)



"I am so glad I found these guys. Their entire design process ensured I made the best decisions"

Sean Whiffin
Director & Founder of L-Bow Bike Lights





www.l-bow.co

Company Overview

L-Bow bike light company seek to provide effortless safety without overwhelming cyclists with controls, aiming to make every bike journey as safe as possible!

Product Overview

The L-Bow rear light makes cyclists appear wider, encouraging cars to give more room whilst overtaking. Cycle safely and give cars the L-Bow.

Consumer Electronics



Problem

L-Bow came to us with a brilliant concept; offset the rear bike light to give the impression the rider has taken up a bigger space roadside, forcing cars to take a wider berth when passing.

Solution

LUMA began working from the brief with Sean from early 2018, developing two models of the L-bow safety bike light, taking the design from concept all the way through to production.

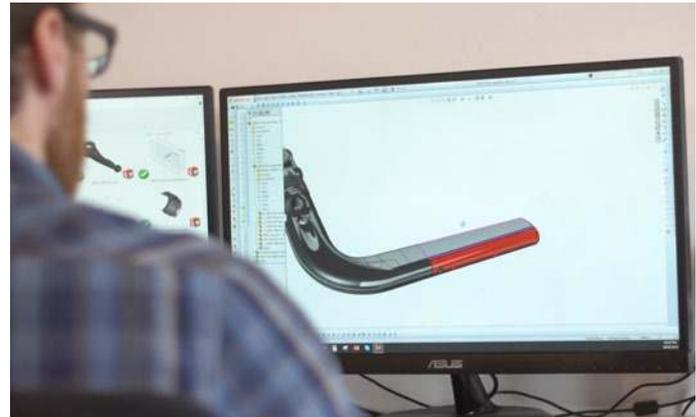
Full Product Dev Cycle Injection Moulded Housing Pad Printing
Custom PCB Design Software Coding 3D Printed Prototypes



Working together with the L-Bow team during development.



Initial sketch ideas



L-Bow 2.0 built on the foundation design of the Mark I.





"I really enjoyed the collaborative process with LUMA. They have great creative flair and always hit deadlines"

Paul Blair DSO
CEO & Founder of ArcX





www.arcx.fit

Company Overview

ArcX products mix iconic design with inherently useful technology. Inspired by adrenaline and experience, every detail is engineered to perfection and crafted to last.

Product Overview

Luma helped ArcX realise their idea from initial sketches and storyboards to a first functional prototype, embedding microtech and ready for focus group testing.

Wearable Tech



Problem

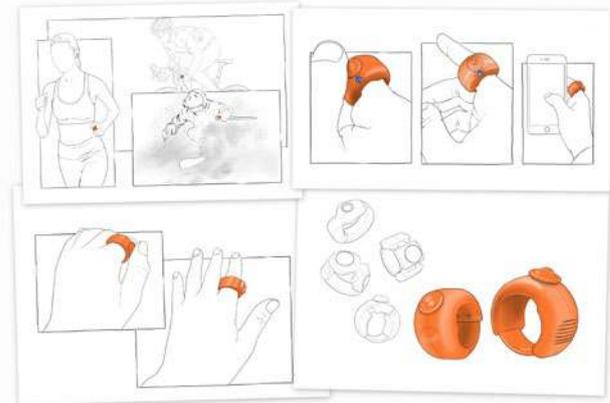
When exercising, (whether that be; running, weight lifting, or outdoor adventure sports), it is not always easy to control your music from your phone or headphones/earphones.

Solution

ArcX connects to devices via bluetooth and is worn on your finger like a ring. The smart ring allows users to easily control their music with only their thumb, even when wearing gloves.

Prototype Development Custom PCB design (Outsourced)

3D Printed Housing Internal Micro Electronics Intergration



Initial conceptual sketch development.



Iterative prototype development.



Prototype deliverables for user testing focus group.





"I am so glad I found these guys. Their entire design process ensured I made the best decisions"

Sean Whiffin
Director & Founder of L-Bow Bike Lights





www.l-bow.co

Company Overview

L-Bow bike light company seek to provide effortless safety without overwhelming cyclists with controls, aiming to make every bike journey as safe as possible!

Product Overview

Expanding the L-Bow product range, the FL1 front cycle light has intense flashing patterns to ensure you cannot be missed while cycling, even in daylight.

Consumer Electronics



Problem

L-Bow front light; Ensuring that bicycles are seen when approaching junctions and turnings is just as important and being seen from behind. The L-Bow front light does just that.

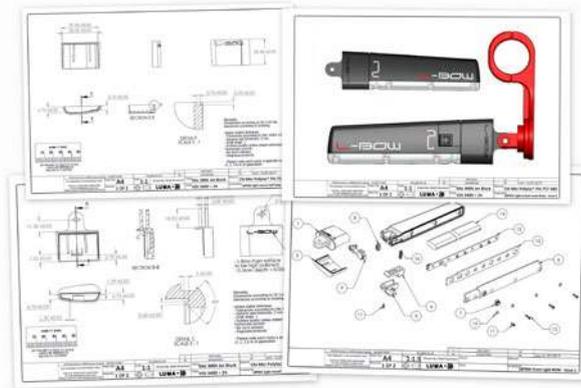
Solution

Having already designed the L-Bow rear light, LUMA-iD helped to expand the product range by redesigning it for use on the handlebars, with the use of off the shelf bike mount parts.

Full Product Dev Cycle Injection Moulded Housing Pad Printing
Custom PCB Design Software Coding 3D Printed Prototypes



Working together with the L-Bow team during development.



Production ready drawings for manufacture & assembly.



Production tooling, produced by long-term supplier in china.

L-Bow front light





"Working with LUMA was fast and efficient, and the outcome exceeded our expectations."

Graham Booth
Chief Executive Officer at 2iC





www.2icworld.com

Company Overview

2iC are experts in digital interoperability in the battlespace.

2iC's unique software connects military commanders, operators and equipment across the land, sea and air.

Product Overview

The 2iC Assist allows soldiers on the battlefield to notify colleagues when they are in distress. The 3 buttons and pull tag correspond to the severity of the situation.

Wearable Tech.



Problem

Soldier safety on the battlefield is vital. If a soldier is on their own and hurt, missing, or captured, there is no way for their squad leader to know the level of distress they are in.

Solution

2iC is an IOT wearable. The pull cord allows a field operator to instantly call for help. It offers 3 configurable buttons to allow the user to take action silently, quickly and effectively.

Full Product Dev Cycle Custom PCB Design Software Coding
Designed For Additive Manufacture 3D Printed Housing



Custom PCB design in-house.



Iterative prototype production across the development of the project.





"Luma's knowledge of manufacturing processes continues to assist us with developing our range of products".

Eugenio Welker
Supplier Quality Engineer at Ichthion Limited





www.ichthion.com

Company Overview

Ichthion is a multi-award winning company developing disruptive technologies to extract plastics and synthetic waste from rivers and oceans.

Product Overview

LUMA developed a working 1:6 scale prototype for Ichthion to help them prove the concept for a mobile river pollution clean-up system.

Sustainable Tech



Problem

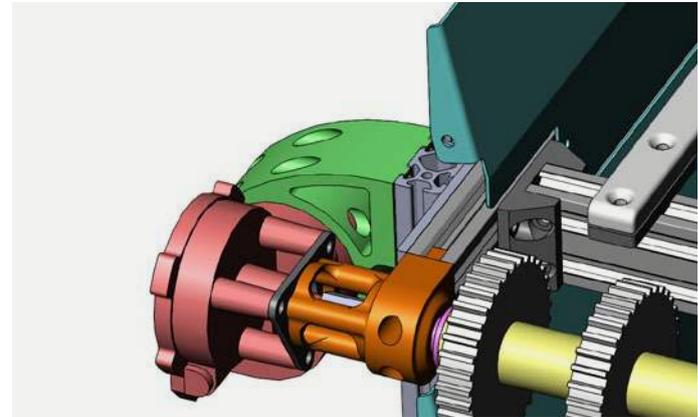
River pollution is a major contributor to the vast quantity of ocean plastic today. This plastic threatens wildlife, fishing industries and the health of the planet.

Solution

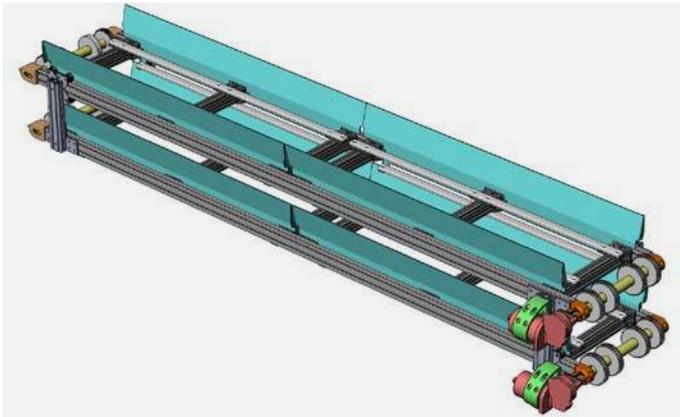
LUMA worked with Ichthion to prototype a waste collection system deployed from the riverside. This allows rapid deployment to key locations without the need for infrastructure.

Full Product Dev Cycle Mechanical & Electronics Development

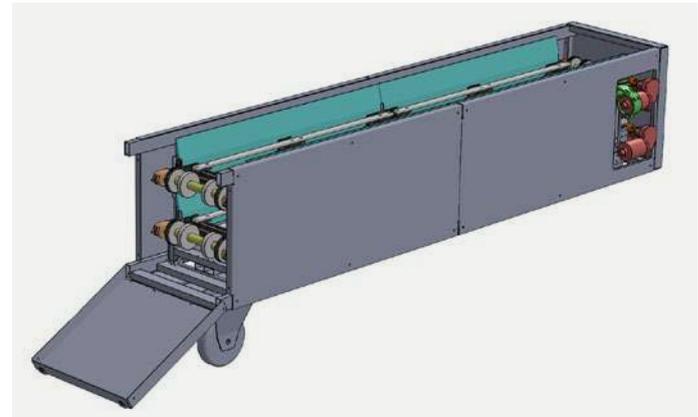
3D Printed Components Designed For Sheet Metal Fabrication



Inner mechanical workings of the river clean up tool.

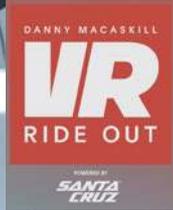


Fully defined CAD assembly of the internal mechanism.



CAD design utilised for design for manufacture & analysis.





“The LUMA team have incredible technical skills and were able to help our idea come into fruition”

Neil Evely
Head of business development at REWIND





www.rewind.co

Company Overview

REWIND is a real-time spatial experience company. The team brings the physical and digital worlds closer together to create spatial experiences that people love.

Product Overview

The Danny Macaskills VR simulator gives people the chance to experience the death-defying stunts performed by the famous cyclist in full virtual reality.

Virtual Reality



Problem

REWIND required a rapid turnaround of a bespoke mounting system for the Santa Cruz / Danny Macaskills experience; featuring steering and pedal force feedback which had to integrate with their electronics and VR software.

Solution

An aluminum extrusion frame bolted together with 3dprinted nylon brackets, creating a sturdy chassis to mount the bike. Full CAD simulation of the rider was required to test the ergonomics.

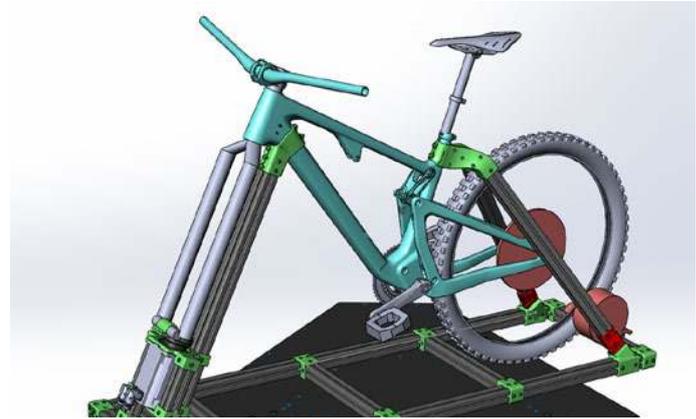
Bespoke Product Dev

SLS 3D Printed Components

Aluminium Extrusion

Fast Delivery

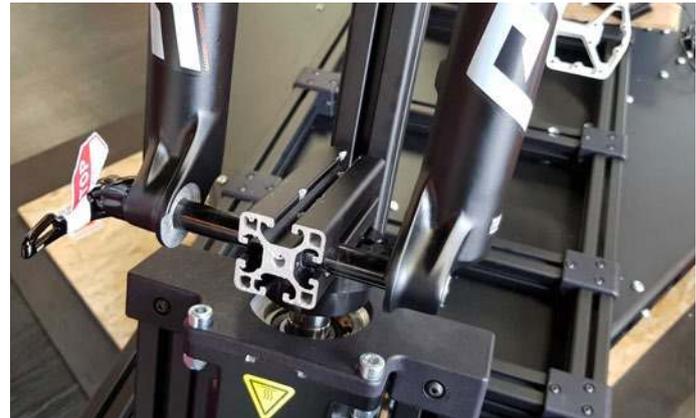
Site Installation



Rapid development to design a secure mounting system.



3D visulation used to communicate ideas & development.



The bespoke product was assembled on the installation site.



In association with [@danny_macaskill](#), [@santacruz bicycles](#), and [@rideout.amsterdam](#)

Developed for [@REWINDco](#) and creative agency [@cutmedia](#)



“LUMA took my problem and produced some incredible design solutions, I am very happy with their services”

Shiraz Dudhia
Founder of Site 2 Safety





www.structemp.co.uk

Company Overview

Site 2 Safety was brought to life by StrucTemp, a structural and temporary works service, with more than 36 years' experience in the construction industry.

Product Overview

The Safety Coupler is a revolutionary scaffolding coupler, bringing a 100 year old piece of equipment into the modern era, improving safety, quality and efficiency.

Industrial Equipment



Problem

Millions of scaffolding couplers are used across the world, but the protruding bolts inherent to their function present a severe risk of injury to construction workers.

Solution

LUMA worked with Site2Safety to reduce injuries by enclosing the bolt in a metal casing. The design also features a quick-close system, reducing assembly time by 40%.

Full product dev cycle Design For Sheet Metal Fabrication

3D Printed Aluminium Prototypes Vinyl Branded Stickers



CAD was utilised to have the product ready for manufacture.



The Scaffold coupler has seldom changed since its inception.



Fully functionally prototypes made from 3D printed metal.



S|TE²SAFETY
SAFETY COUPLER



“In 12 months, LUMA turned my headset problem into production ready design.”

Jonathan Tustain
Head of technology at Proteus VR Labs





www.proteus-vr.com

Company Overview

Proteus VR labs are the creator of high-end mobile VR experiences utilising the power of the mobile phone and making the VR experience as accessible as possible.

Product Overview

The Freefly VR headset designed to fit any mobile phone, and with three simple stages allow customer to turn a 2D screen into a fully interactive and immersive 3D VR experience.

Wearable Tech.



Problem

Phones come in every size (length, width & depth) that you can imagine. They also have raised buttons and ports in every different position you can imagine.

Solution

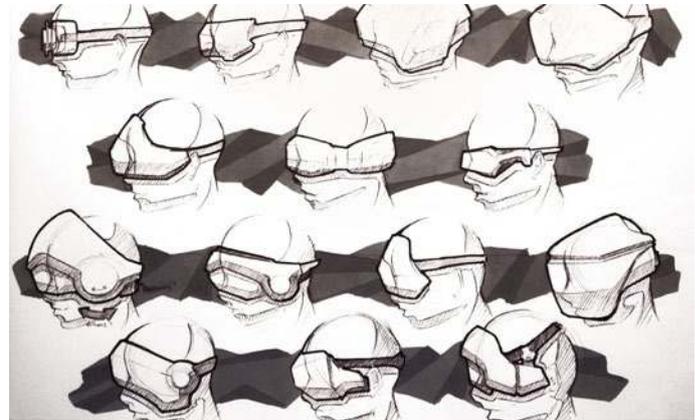
The design of the Freely VR headset has the ability to adjust its phone locking position automatically. Keeping this lightweight, easy and intuitive to use was the big challenge for this project.

Full Product Dev Cycle

Pad Printing

3D Printed Prototype

Injection Moulded Housing



Concept sketching



Variations of detailing on front plate



Prototyping



"Quick load" gets you into VR even faster, just drop the phone in and close the tray. To release just push the button.

Features hidden under here enable the phone to auto align vertically





“Amazing work from the LUMA team to take a very simple brief to a fully working set of beautiful prototypes”

Diane Bayard
Head of creative at KatList





www.ciroc.com

Company Overview

We worked with Katlist a high-end London marketing and promotion agency who manage CIROC UK club scene including

Product Overview

CIROC produce various sizes of high quality Vodka which are sold across all the premium night clubs in London.

Public Relations



Problem

CIROC wanted us to produce a special Point-Of-Sale device that promoted the purchase of their 3Ltr Jeroboam bottle by offering a special experience on the table of the customer.

Solution

We designed a "Digital Interactive Sleeve" that transforms the glass bottle into a 360 display that interacts with the surrounding music, allowing custom images and messages to be displayed.

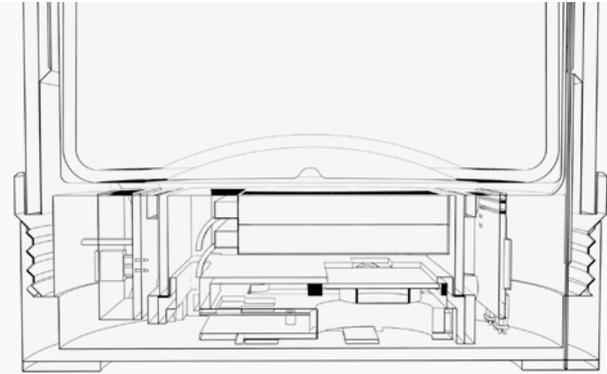
Full Product Dev Cycle

Pad Printing

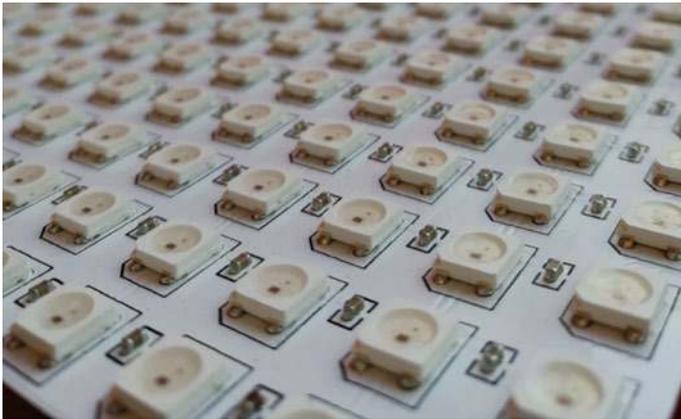
Custom PCB Design

3D Printed Prototype

Injection Moulded Housing



Internal detailing



Sheet of LED array to be wrapped inside housing



Individual components



Our clients

Since our establishment in 2012, the LUMA-iD team have worked with clients from startup & innovators, to SME's and global FMCG brands across multiple sectors.



Our award winning team

The LUMA team is comprised of experienced designers and engineers, with diverse skills and focuses. This combination allows us to tackle an eclectic mix of projects across sectors.



Luke Vos
Co-founder & Director



Mark Little
Co-founder & Director



Matt Passmore
Senior Product Engineer



Hans Ramzan
Senior Industrial Designer



Alex Fleming
Industrial Designer



Mike Holt
Senior Electronics Engineer



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