

TR & PARTNERS

START UPS

industrial design
for startups
some good,
some **not so good**
(the designs)

Tobia Repossi



Tobia Repossi studied Architecture at Politecnico di Milano and Product Design at Kunstakademiets Arkitektskole in Copenhagen.

He is a registered architect with twenty years of experience in industrial and product design.

He worked for major European and Asian market-leading companies as well as European and American brands and for startups from China and Silicon Valley.

He designed products for interior and outdoor, as well as furniture, electronic appliances and accessories.

His works have been selected for the Compasso d'Oro Prize, Design Index, Mediastars, Modern Decoration Award, A'Design Award and Red Dot Award and published in magazines and newspapers. He's been ranked number 22 in the world for Electronic Appliances by DAC, number 40 designer in China by World Designer Rankings and 106 in the world.

He's been teaching Design at Politecnico di Milano Faculty of Design, IED (European Institute of Design), ICOD (Italian College of Design), Italian Design School, ARUCAD (Arkin University for Creative Arts and Design in Cyprus) and conducted the Arkin Innovation Hub.

He co-founded IDA (Italian Design Association) which reunites all the Italian professionals in China and promotes the culture of Italian design.

He gave public speeches at many Universities, Design Conferences and TED events.

He established successful design and communication companies like ZonaUno design Agency, Tobia Repossi & Partners in Shenzhen and Bologna, and Mobili in Cartone a cardboard furniture company that sells products all over Europe.

REVOLUTION

With Toby we share an interest in the way wireless and, more generally, how technology changes man and society.

Our roads took divergent paths but, in the end, we have really been walking in parallel all this time. And here we are again, talking about the same things; celebrating innovation, technology and design.

This catalogue displays smart and connected objects. These can all be seen in a way as the descendants of the revolution that began more than 100 years ago with the invention of wireless, which today, in the era of the Internet of Things, connects objects in a way that was unimaginable even only twenty years ago.

I know some of the projects in this book up close - I was involved with a few of them. All of them are 'intelligent', in the sense that they are designed and made with 'smart' and surprising materials or because, in some way, they improve users' lives.

Smart and connected objects will spread in all commodity sectors, from home control to mobility, from the world of supplies to factories 4.0, for production control in all fields from agriculture to medicine, from transport to education.

Many schools and many designers find it hard to fully comprehend the extent of this revolution that is equal to, if not greater than, that brought about by the ubiquitous use of plastic.

We must find new ways of imagining, designing and producing everyday objects. I believe that in this exhibition you will find some indications as to where the design world may go in the next few years.

MASSIMO TEMPORELLI

Physicist, anthropologist, writer, entrepreneur, scientific communicator, president and co-founder of 'The FabLab'.



CONNECTED

We live in a connected world, with connected objects where also the design process is now connected.

Design and communication tools today make possible to design objects anywhere in the planet with less consumption of resources, less testing and a quicker time to market.

Being able to see 6 months ahead in the electronic market is already incredible in a field where the life cycle is extremely short.

Most of the clients and the supplier involved in the production of these designs never met each other because this is what modern design tools can do: all shared, all connected, all real time.

All the projects that you see here have been conceived in the last years, some of them were sold in Apple Stores or in big chains, some others didn't leave the prototype stage.

But all of them bring little innovation either in their function or shape.

Looking at the geography involved in these products, maybe you will discover that it's not necessary to have big infrastructures to develop products and everyone can have a space in the chain regardless of geography or economy.

ROBERT ALLISON

Teacher and copywriter and Content Manager for the Arkin Innovation Hub
where he describes his role as 'uncertified Jack-of-all-Trades'





Giacomo Pala

Giacomo studied Advanced Product Design at the University of Bologna and is now an Industrial Designer specialised in 3D CAD modelling both surface and sub-d.

His enthusiasm for industrial products, particularly those embedded with advanced technology, fuels his exploration into innovative materials and production methods.

He teaches 3D modelling at ITS Academy in Brescia, , highlighting the importance of technique, technology, and common sense in design, while emphasising creativity in problem-solving.

Passionate about 3D printing, he assists in developing prototypes that showcase the practical application of these cutting-edge technologies.

Nicolò Castagnini

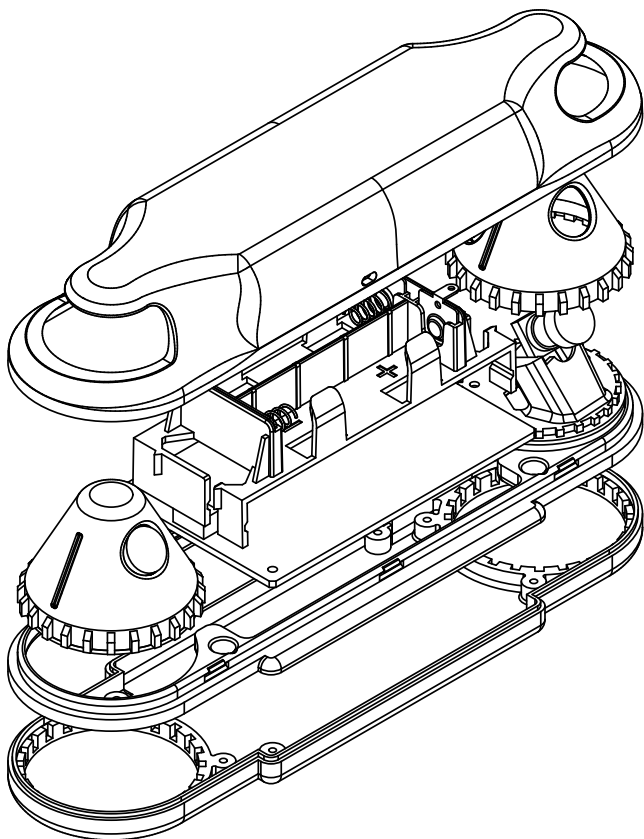
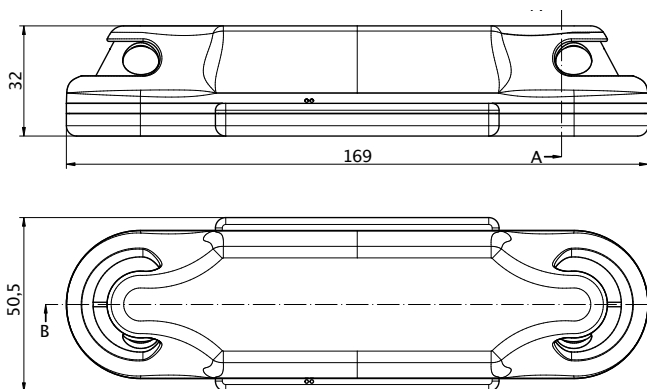


Nicolò studied Advanced Product Design at the University of Bologna and is now an Industrial Designer specialised in 3D CAD modelling, visualisation and animation.

Passionate about technology, eagerly studying the latest tech products hitting the market.

His focus lies in the seamless integration of design, appeal, and functionality with cutting-edge technology.

His fascination with technology extends to exploring how it enhances the overall user experience without worsening the aesthetic appeal of products.



CAMERA VISTA

The Camera Vista is intended for shelf or fridge mounting in supermarkets.

It detects out-of-stock, planogram non-compliance, foreign product contamination and pricing inaccuracies that allow to keep track of how efficiently coolers and shelves are performing. It also provides data to see what changes need to be made in real-time and helps client profiling.

The two cameras contained in the device can be positioned during assembly in order to have different angles of vision to suit different distances and mountings.

After that, the device requires no user intervention after installation apart from changing the two AA batteries.

This Camera Vista is revolutionary in its market due to its adaptability to different environments.

For the company, this means a reduction in moulding and in stock costs.

The project took 6 months from brief to distribution.

Coolr Group is a company based in Virginia. The design was developed in Italy, and the PCB Design in India is produced and assembled in China and distributed worldwide.

The challenge for this mini camera has been to fit the PCB and the 2 cameras in the smallest casing.

The product turned out to be only 3 cm tall, so it can be mounted upside down also in chest freezers with sliding panels.

When we started to design for Coolr Group they had different designs for different clients and mountings.

This all-in-one product has an interior set of adjustable gears to rotate the camera angle.

During assembly, the product can be adjusted to suit different positioning.

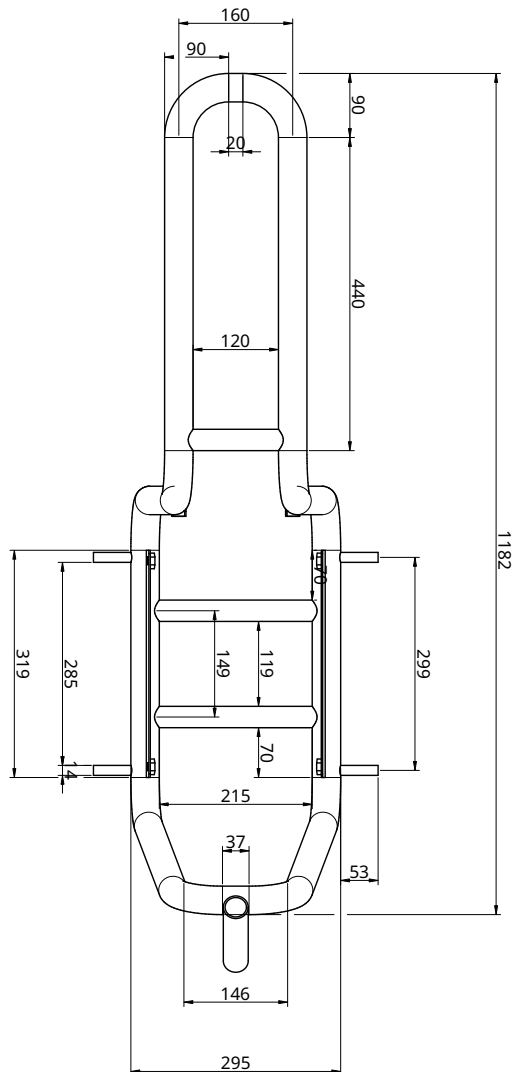
Coolr Group USA

2021

2.500 units

global market





ELECTRIC SCOOTER

Electric Scooter designed for an Indian company. The Scooter is minimal and simple, extremely easy to build and inexpensive. It is made of a one-piece bent tube that creates the entire structure.

It can be accessorised with a second seat that becomes a loading platform.

The 48 V 30 Ah battery is a standard so it can be recharged or changed in an emergency or extra power.

Saini India

2022

3000 units

India





EARBUDS

The quality of music in any headphones depends upon the drivers used in the headphones. For most audiophile and bass headphones, dual-drivers ensure the quality of the sound, especially superior bass enhancement and a richer audio experience known as 'deep sound'. Hi Sound's colour-coding of the ear-buds also made for great simplification of use and their presentation box was a huge step up in functional and aesthetic quality.

Hi Sound Audio

2013

10.0000 units

global market





HEADPHONES

These were the first Bluetooth headphones with a multi-material finish in the body. The aim was to cut out the inessentials and focus on what matters: impeccable sound, premium materials, and high-quality components - like the driver units, which are comparable to those found in far more expensive professional products.

Status Audio USA

2022

2.500 units

global market









VR GLASSES REVEL

VR Glasses are often cheap pieces of plastic that users keep in their drawers. Revel was the first luxury product in this market. Covered in Primo Fiore leather from Florence, these were the first truly stylish VR glasses.

Revel also solved the mechanical problem of holding the phone by means of a nano- technology-based sticky pad instead of the usual heavy mechanical spring-based clamps. This keeps the headset comfortable and light for longer use.

Twisted Reality Holland

2016

5000 units

global market



VR HEADSET 3RD EYE

This device was designed for the Chinese company, 3rd Eye - which, at the time was the technological leader in the field. Due to their miniaturisation capabilities and superior firmware, functioning prototypes with a streamlined design were developed which featured elements that are still unavailable in today's market.

After a successful presentation at CES 2014, the company aborted the product because it was too unlike the bulky black box made by Oculus Rift, instead producing what was basically a copy of the Oculus. They disappeared the same year with only a few units sold. Nonetheless, you can still see details of this design, like the head back support, in contemporary VR headsets.



3rd Eye

2014

concept





HARDWARE IS HARD!

Why Hardware is so Hard, Hard, Harder!

Yes! Designing for hardware startups is not easy, let's see why....

First of all to the technical challenges of a software startup such as User Interface Design and programming an App you have to add PCB Design, Firmware developing, Industrial Design, the cost of mouldings, prototypes, testing and lots and lots of things that often go wrong.

Plus sometimes the above mentioned App and UX UI Design if you have an integrated software part.

Let me mention also that the moulding price it's not the end of the financial burden but just the beginning. First batch, packaging, cables, instruction booklet if any, delivery, you name it.

They always say that startups fail because they are under financed or because of disagreement between the partners, well in my years of experience I've never seen any failure due to these.

They always fail for one good reason: distribution channel. Great ideas, great product, great design, doesn't reach the shelves. Or it reaches the market when it's too late, or sometimes too early. It's the distribution channel the core of everything.

For hardware startups this is crucial because you don't have the shortcut of App Store or Google Play, you have to reach real people, in real stores, sign agreements with real human beings, pay listings, fight for shelf positioning, struggle for faster delivery and price positioning.

Have we spoke about the complexity of the modern product design world?

Indian clients based in Silicon Valley call a designer in Italy and a PCB Design Company in India, the PCB is produced in Vietnam, the plastic shell in Malaysia, assembled in China and distributed from Hong Kong all under the supervision of a Product Developer that speaks both English and Chinese. Did you know that working with the Chinese is not so easy?

Did I mention that Hardware startups have basically the same time to market as Software startups? In the first decade of the last century, it took 5 years to bring a chair to the market, 4 years in the Sixties and Seventies, just yesterday, in 2015, it was probably 1 or 2 years. Now we are asked to press the button of the production chain in weeks from the brief, these crazy times.

Designing for hardware startups is hard not only because you have to be comfortable with this geographical complexity but also because the timing is crazy. And you need to have the ability to see the market 6 months or one year ahead. Can you see your products in two years, well you are a genius! I want to introduce another character to this horror movie. A large majority of hardware startups are actually made by software people: programmers, coders, electronic engineers: this is often where the first idea comes from. The need for a physical device is secondary and subordinated to the software. This means two things: as a designer you are often considered a mere service to cover with plastic shells a hard and software.

And you submit your service to people that have never developed a physical product. Not all of them but... happens a lot.

Designing for Hardware startups is Hard! But also Fun!

You have to be updated on the latest technologies, you have to spend a lot of time in Amazon and in Apple Stores and in the markets of Shenzhen. You'll wake up with a different problem every day, if this is what drives you, that's your field!

Psss I know Industrial designers that have spent a life designing just bathroom fixtures, right?

Now let's come to the skills needed to be an industrial designer for hardware companies.

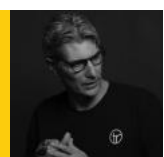
Be prepared to work in a team, if you are a solo rider go back to design furniture accessories, way better. You'll find yourself working in a complex environment in which the question is not where you live but which timezone are you in. Did I mention that you have to be connected 24/7?

Be prepared to use cloud-based softwares with strong sharing capabilities, be proficient in managing platform or you'll drown in emails.

As said train yourself to see the market trends ahead and hunt for the coolest innovations.

By the way , do you want to have a focus group and a market research for free about the product you are designing? Go to Amazon, take a look at similar products and see the sale volumes and the reviews, tons of information literally for free.

Keep your degree of innovation at a high level and pace, you are working for the most innovative field today. There is a revolution here going on, these are just some ideas on how to ride the wave.







E-SCOOTER

Electric Scooter concept designed for a company dealing in the promotional market.

The scooter's design extensively uses carbon fibre for shell parts and for the structure and reorganises the handlebar integrating the rear brake into the handle.

It's intended to have generous surfaces for logos and brand customisation and has been designed with an eye to the environment of sports cars.

Angels and Demons

2022

100 units

United Arab Emirates



AUTONOMOUS MOVING ROBOT

Autonomous Moving Robot (AMR) designed by Tobia Repossi and Nicolò Castagnini on the Magni Base Opens Source robot produced by Ubiquity Robotics.

The machine is useful for dark factories and is able to transport goods in automated warehouses. The robot comes out of the box almost fully formed – navigation, computation, mobility, power and a loading capability of 100 kg.

A Lidar sensor enables the robot to map the room by measuring the distance to the nearest reflective surface using a laser avoiding collisions with objects or humans.

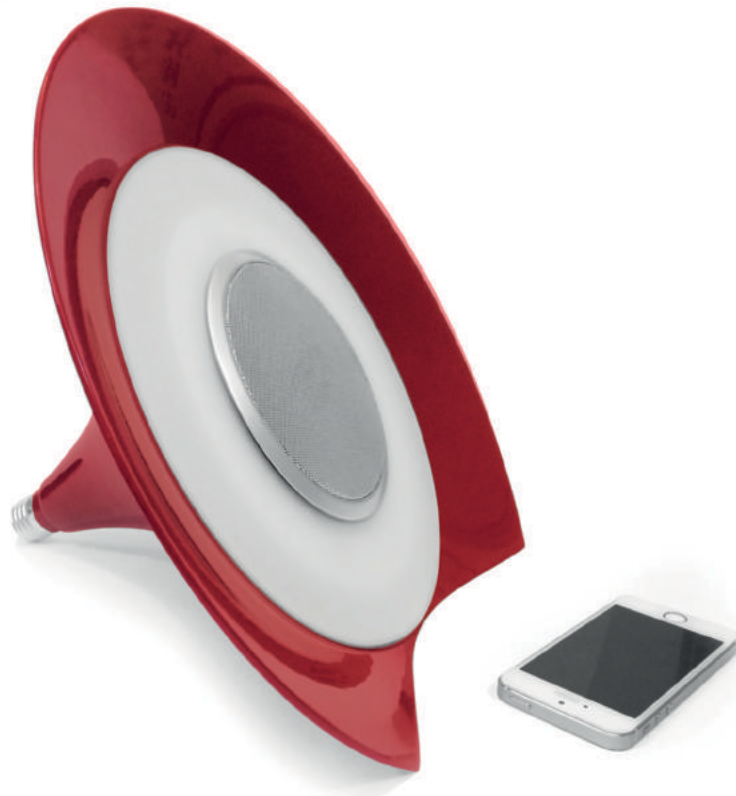
Magni USA

2022

900 units

global market





CALLA LAMP

This speaker-lamp is one of the first bluetooth-enabled colour-changing lamps with integrated speaker produced before the 'Internet of Things' revolution. The E27 attachment device allows for multiple mounting possibilities - as a pendant lamp, a floor lamp or even as a table lamp. The product has received several design awards and became available in Apple Stores worldwide in 2013. The device that you see here is the battery-powered mini version that was produced one year later.

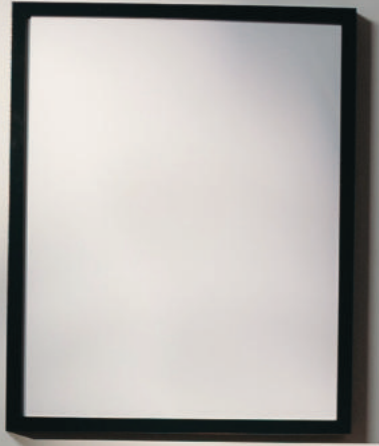
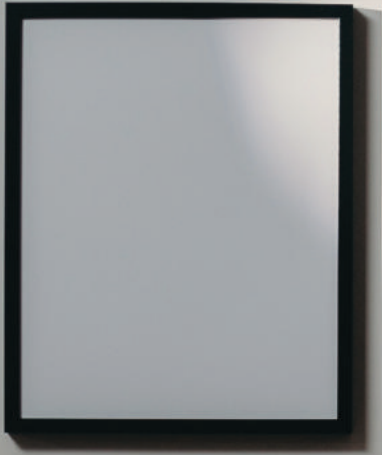
Relaxement

2022

20.000 units

global market







SOFAS

Following the call of a friend Pino Colafiglio we design a serie of sofas for the new-born brand Relaxia. Playful colours and shapes, fabrics and minimal design.

Relaxia Italy

2022

in production

global market







USB DRIVES POWER BANKS

Maikii is a major player in the so called 'freebie' promotional market: products that are branded with the name of a company and usually given away for free. They also sell royalty based products by Lucasfilm, Pixar, Disney and others, so they required devices that could be easily rebranded but that were also comfortable inside a manager's leather suitcase. These USBs were designed with an eye to appearance, using gold, silver and shiny plastics. They are still a top seller for the company and have been much imitated by their competitors.

Maikii Italy

2018

30.000 units

global market



BT SPEAKER

Portable Bluetooth speakers have rapidly become must-have devices as outdoor companions for days at the beach, nights out by a bonfire and picnics in the park. Rapid advances in Bluetooth connectivity and miniaturisation plus economies of scale have resulted in this class of mini-speakers becoming extremely affordable. This has encouraged a burst of creativity in the design of the speakers, where a certain novelty of style or function is added to the basic function of the speaker. This speaker, for example, is also a phone holder for both portrait and landscape positioning. The exterior shell has been coated with a special rubber finish for extra grip.

Kerry Audio Vietnam

2016

10.000 units

global market



BT SPEAKER

The clamp device which holds the phone gives this speaker the appearance of a friendly Pac Man. It's been the greatest market success and inspired other companies.



Kerry Audio Vietnam

2016

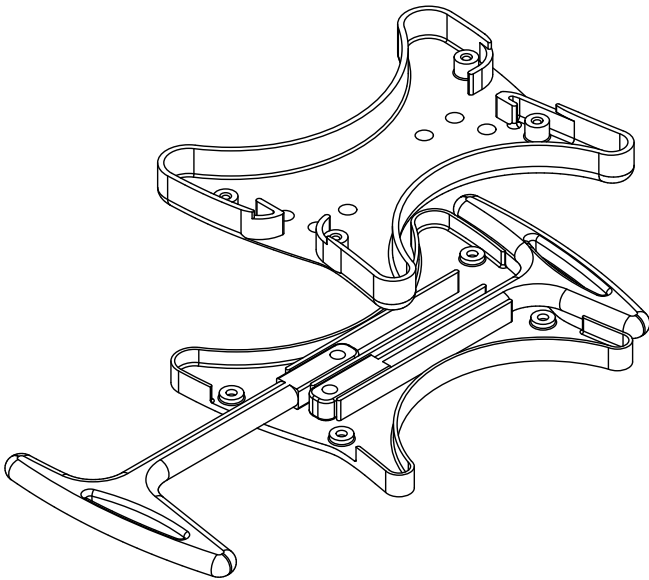
10.000 units

global market





PHONE CLAMP CLASPP



This Phone Clamp Claspp has been designed for Creative Gizmos, a company based in Cupertino California USA.

It solves the problem of using the phone with just one hand giving full freedom to the thumb to reach every corner of the screen even in pro phones. The Phone clamp has been designed to be specifically used on the new iPhone 13 in combination with the Apple Mag Safe but it fits many other different smartphones models.

The phone clamp fits right and left-hand use and has two different positioning for small and bigger hands. It gives freedom to hold the phone tightly without using your thumb muscle of the hand for the grip.

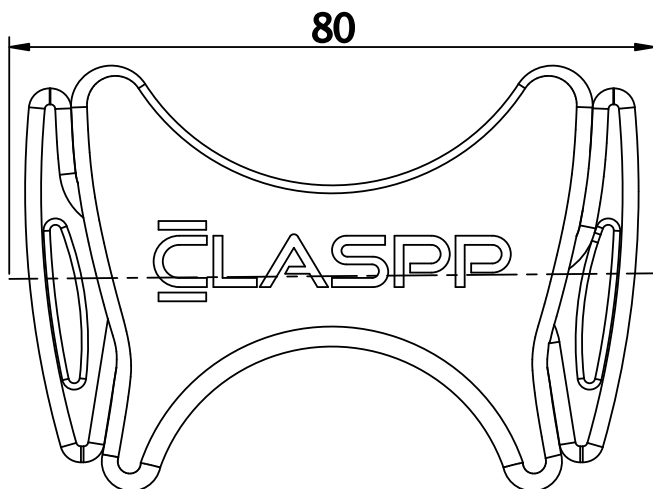
The iPhone Clamp for Creative Gizmos is a revolution in the way people will hold and use their phones in multitasking activities.

If you search for products available in the market for phones, they fall into two main categories:

- 1) Phone cases – provide a protective cushion around the phone
- 2) Phone grips – that allow the user to use their fingertips and thumb to hold a feature on the back of the phone.

We based the design of the Claspp phone grip on the ergonomic engineering principles used for hand tool design. The first principle is to distribute the force – in this case, the weight of the phone – across the hand instead of letting it become concentrated in one or two areas. The second principle is the size of the handle should be sufficient to allow the user to find an optimal grip position. The third principle is to avoid applying concentrated force over soft tissue, such as the palm of the hand.

We also studied how people hold their phones. We questioned why people who use their phones for several hours for work or play end up suffering from tendinitis – commonly known as ‘texter’s thumb, wrist problems and even back problems caused by bad posture commonly referred to as the ‘smartphone slump’ or ‘tech neck’.



Creative Gizmos USA

2022

1.000 units

global market

BT SPEAKER

This oddly shaped speaker was designed as a trial by a Bose supplier.

It can be placed either horizontally or vertically and, with its Bluetooth 2.0 capabilities, is able to form a multiple audio array system.

Due to both a lack of a proper distribution channel and an exclusive agreement with Bose, the company ceased production of the speakers.

Kerry Audio Vietnam

2016

10.000 units

global market



MADE IN BETWEEN

If there are 9,591 km between Silicon Valley and Milan, 6,129 km between Milan and New Delhi and 12,418 km between New Delhi and Silicon Valley, then the objects designed by TR cover all these kilometres. And any of those places could be anywhere else - China, Paris, Cyprus - nothing would really change.

Files fly across the ocean, 3D models transcend geographical boundaries. Ideas certainly put in the miles in a world that fits the size of a screen. What matters is not where you are, but the time zone you work in. In a certain time- zone, you could be between Europe and South Africa, in another, you could be between Japan and Australia. What counts is the specific knowledge, the technical skills, flexibility and speed.

The production cycle is as dynamic as it is contemporary: the concept is conceived firstly as software content - in start-ups usually in the US or Europe - and then secondly it is sent to the designer - who plans the outer shell and its aesthetic form - and then thirdly it is sent for production in, say, China. There, electronic miniaturisation and cost benefits can be exploited. In a short time, the idea has travelled around the world after which it hits the market as a finished product - the result of three separate but equally fundamental experiences.

The entrepreneurial speed of the United States and their rapid funding encourage start-ups to prove themselves in a real market. Italian design brings its touch of elegance and knowledge of materials and shapes, while Asian production allows the creation of electronic components.

The contemporary designer is a practical intermediary “in-between” a concept on the drawing board and the industrial production chain, with an assembly line as long as the earth's circumference. In an environment where success or failure is always just around the corner, effective communication breaks down geographical, cultural and religious boundaries.

The objects in this collection show us the connection between tradition and innovation and between artisanal and mass production. The local or national concept of ‘made in...’ acquires a new meaning of ‘made between...’ i.e., between different continents and this concept gathers together different cultures and technicalities. Nowadays, objects do not require geography or origin and, in a global market, they are accessible to everyone.

None of these devices pretends to be iconic, yet they all contain a certain degree of novelty and innovation. They accept that in the modern market they will probably have a short shelf-life - for a season or a year, at the most.

But that's the beauty of it: - always wondering what the next one will be!

FIAMMA COLETTE INVERNIZZI
Architect PhD, Writer, Design PR





IPHONE COVERS

Portable Bluetooth speakers have rapidly become must-have devices as outdoor companions for days at the beach, nights out by a bonfire and picnics in the park. Rapid advances in Bluetooth connectivity and miniaturisation plus economies of scale have resulted in this class of mini-speakers becoming extremely affordable. This has encouraged a burst of creativity in the design of the speakers, where a certain novelty of style or function is added to the basic function of the speaker. This speaker, for example, is also a phone holder for both portrait and landscape positioning. The exterior shell has been coated with a special rubber finish for extra grip.

Pitaka China

2017

10.000 units

global market

PHONE CHARGER

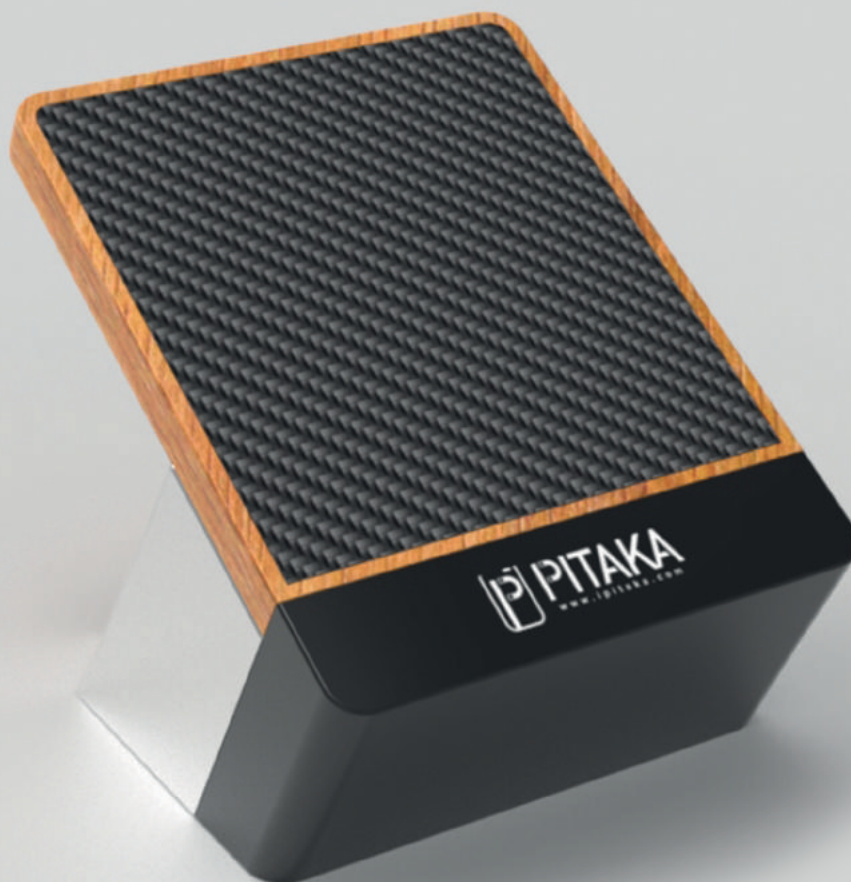
This phone charger concept was designed for Pitaka, the company famous for its carbon fiber accessories. The induction Qi charger works with the Pitaka exclusive magnetic cover.

Pitaka China

2017

5000 units

global market



ROUTERS

This prototype routers - more a futuristic concept than a real product - were designed for the giant ZTE Corporation and was part of shape research on office routers that didn't look like internet appliances. They never left the prototype stage but they inspired the design of the production units for may years.

ZTE China

2014

concept

none





THERMOMETER

Visiomed is famous for its non-contact thermometer that is widely used in both the consumer and professional market. Their original thermometer resembled a gun and it was immediately understood that a less “threatening” redesign was required.

The product proved to be revolutionary in its field and set a new design standard for competitors as well.

Together with the oximetry and blood pressure monitor, it is the ideal kit for patients to monitor their own condition which they can then relay over the Internet to doctors.

This can be particularly significant in rural areas of China where hospitals are few and far between.

Visiomed France

2014

20.000 units

global market







PASSWORD MANAGER

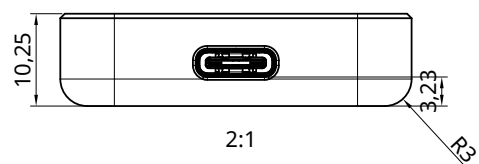
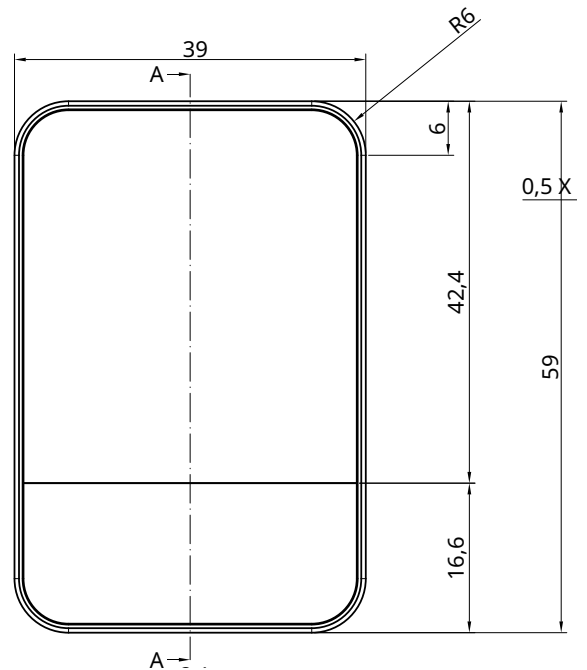
This product was designed for Ereverse, an American company that specialises in web security solutions. The unit memorises the user's passwords and payment methods and, when connected via USB, sends the information to any designated device (computer or tablet). When not in use, the connected device is not able to access personal information. It is especially useful for flexible office environments or for situations, such as in families, where computers and tablets are shared by different individuals.

Ereverse Usa

2020

1.000 units

Usa





GPS TRACKER

The iTraQ is a credit card-sized GPS card that can determine its position using cellular triangulation that allows it to be located anywhere in the world where cellular service exists. It defines a virtual boundary in the app allowing iTraQ to keep track of your loved ones and your valuables.

Once iTraQ moves out of the security zone, the mobile app sends an alarm and a notification. iTraQ is easily chargeable with a wireless induction charger and it has been an Indiegogo best seller.

iTraQ Russia

2017

20.000 units

global market



UNICAM

This is UniCam, the new mini camera from Coolr Group USA designed by Nicolò Castagnini and Tobia Repossi. It is small and portable.

All the features of Coolr Group's tracking cameras are packed in probably the smallest device on the market. UniCam keeps track of missing items and manages the orders.

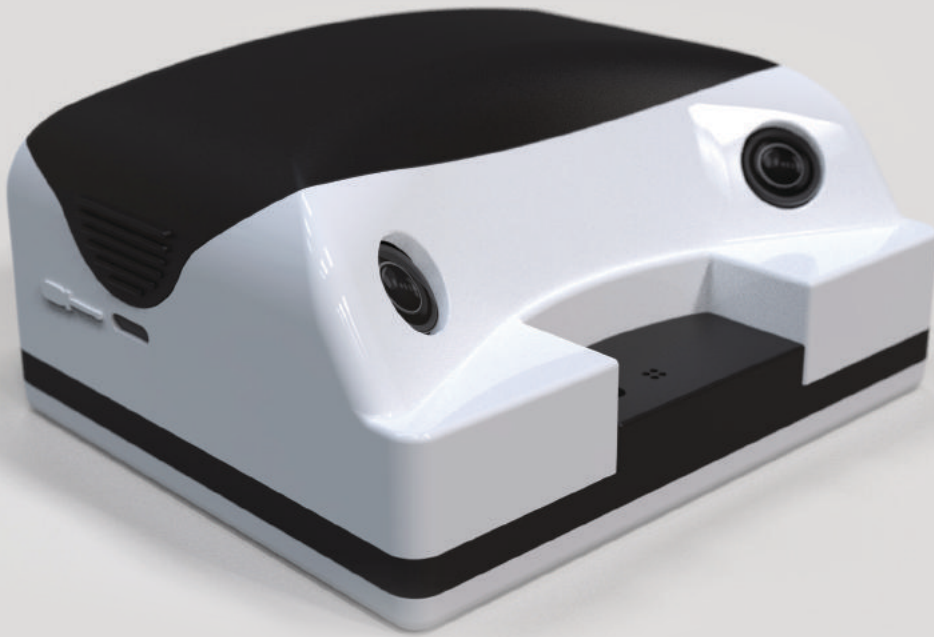
It can be mounted in supermarkets and stores to monitor product's shelf life and connected with the managing system.

Coolr Group USA

2023

10.000 units

global market



CAMERA VISTA CUBIC



Here we go again! Another Camera for Coolr Group USA. The brand new Camera Vista Cubic uses the old Camera Vista's Pcb but it's a massive improvement in accuracy and battery life.

Batteries are now changeable by the client and the camera is the perfect tracking inventory device for supermarket shelves, coolers and fridges.

The Smart Camera keeps track of missing items and manages the orders. It can be mounted in supermarkets and stores to monitor product's shelf life and connected with the managing system.

Coolr Group USA

2023

10.000 units

global market



CAMERA VISTA Z

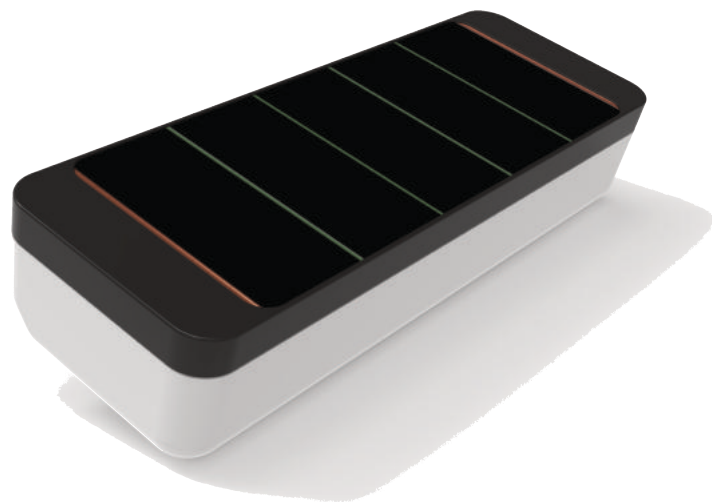
This is Vista Z, the new mini camera from Coolr Group USA. It is small and portable, with a solar panel on bottom surface. Unlike previous models that used dual-camera systems, this innovative device employs a single camera, streamlining its design and enhancing its efficiency. The camera is strategically positioned to capture a comprehensive view of the refrigerator's interior. It is specifically programmed to turn on only when the refrigerator door is opened. This smart activation extends the camera's operational lifespan by minimising unnecessary usage.

Coolr Group USA

2023

10.000 units

global market



UNDERWATER DRONE

This cutting-edge underwater drone is a marvel of modern product engineering, designed specifically for advanced aquatic exploration and monitoring. Unlike traditional models, this drone features only two gyroscopic motors, a significant innovation that enhances its manoeuvrability and efficiency underwater. These motors allow the drone to perform intricate 360-degree movements in all directions, providing unparalleled agility and precision in navigating through diverse underwater environments.

Sharan Sami

2024

under development

global market







JOGOROOM

The Jogoroom Virtual Shop Assistant is an intelligent device that identifies garments introduced into a changing room (by barcode or RFID) and shows available sizes and colours, as well as categorised recommendations to complete the 'look'.

The client can request, via the device, other sizes and colours, which shop assistants receive in real-time on a watch.

The customer can choose at any time between the 'display mode', which displays the selected items together with the various colours and sizes available and 'mirror mode' which makes personalised recommendations relating to style, colours and matching garments.

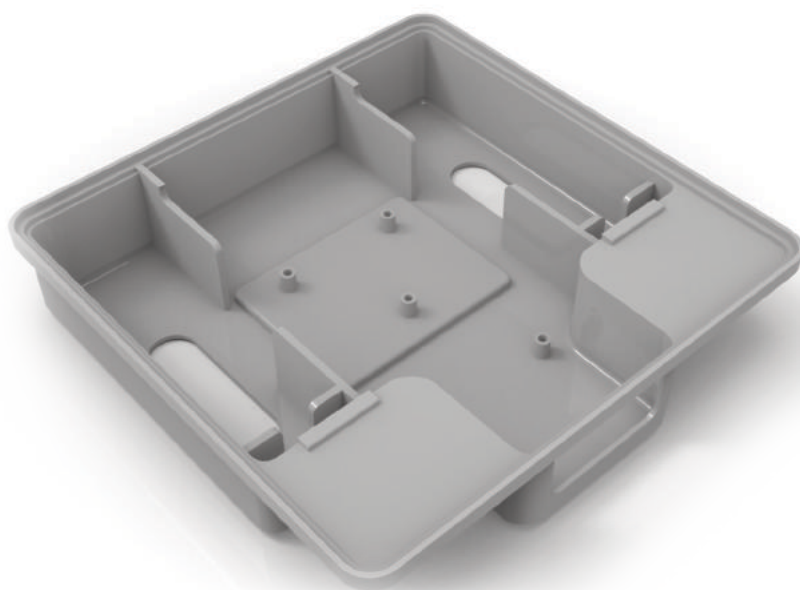
The device allows for colour and size selection, requesting a shop assistant and adding to the shopping cart.

Jogotech Spain

2014

1000 units

Spain





DOG BIN BAU BAU

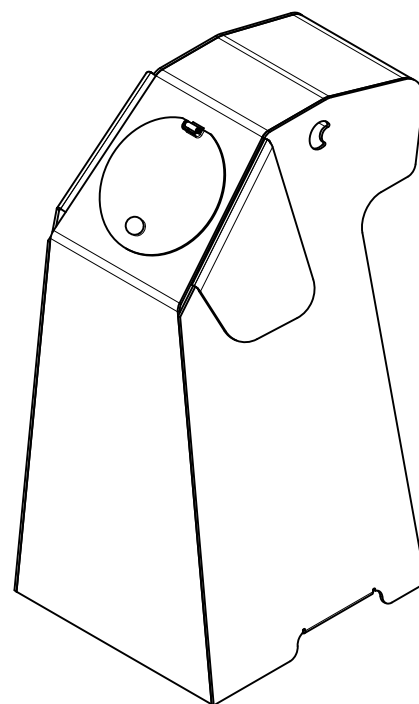
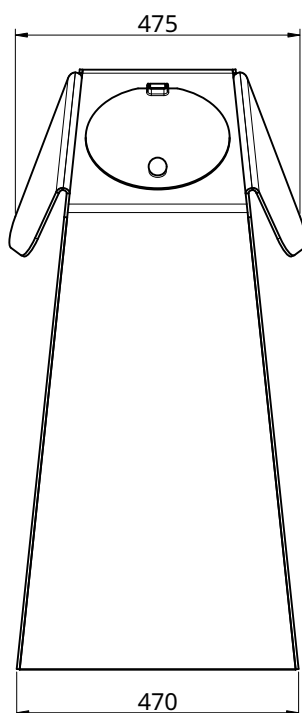
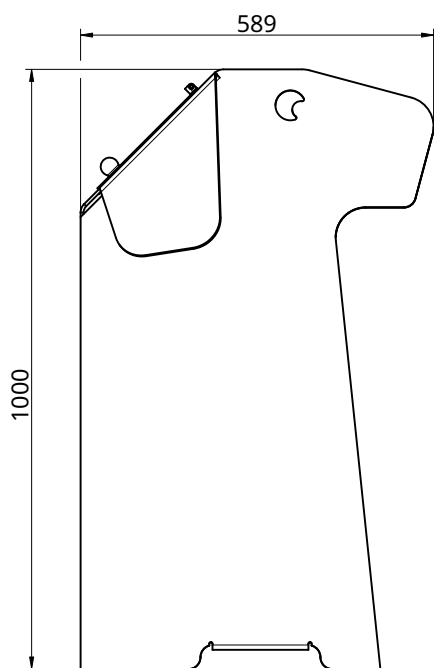
Bau Bau (designed with Marcello Ziliani) is a dog litter Bin for Holzhof. It's a new way to take care of our pets. It has been designed like a multifunctional bin, with litter bag dispenser, fountain and water pot for dogs.

Holzhof Italy

2021

1.000 units

Europe





DOOR HANDLE

Interior Door Handle designed for BHD Shenzhen China

BHD Shenzhen

2022

10.000 units

global market





SLIM E-CIGARETTES

E-Cigarette producer Kangertech in Shenzhen requested a concept design for a new slim e-cigarette.

Through a rigorous process of market research, four 'basic' user types were identified; businessman, career woman, technician/worker and millennial.

Designs addressing the aspirations and desires of these four types were created, hence the 'power tool' style of the e-cigarette aimed at the technician/worker, or the chic, sophisticated style aimed at the career woman, etc.

Kangertech China

2017

50.000 units

global market





E-CIGARETTE

This e-cigarette was designed for Eson, the Chinese producer of top-rated e-cigarettes and vaping accessories for all of the best-known worldwide brands.

The revolutionary handle gives the consumer a more comfortable experience and an easier way to charge the battery.

Eson China

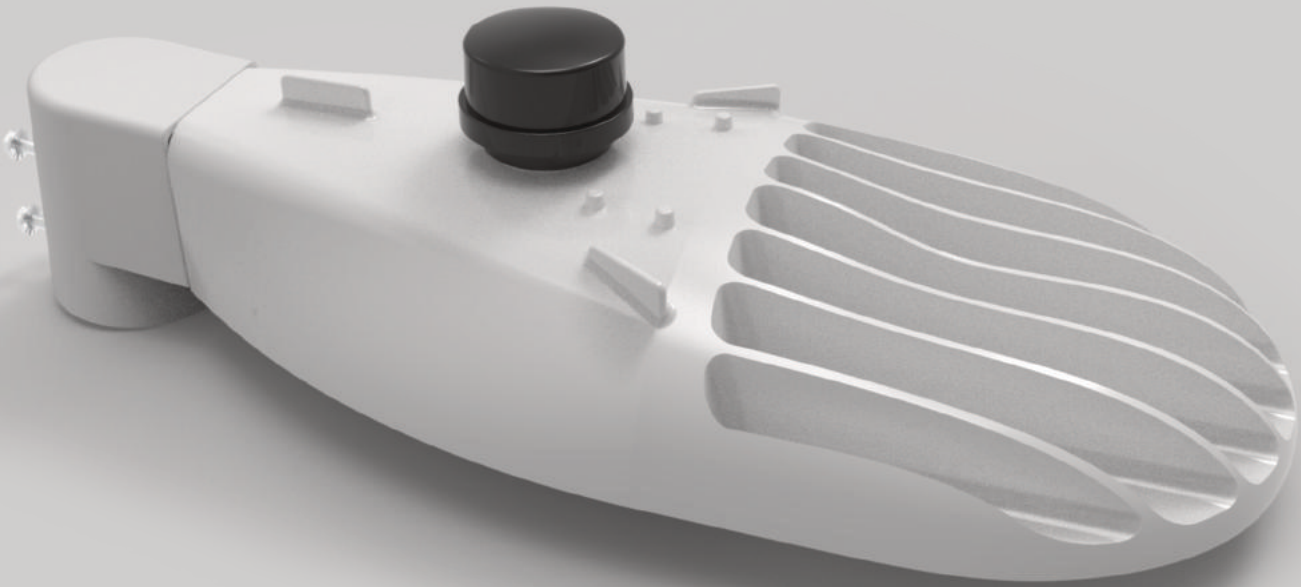
2015

50.000 units

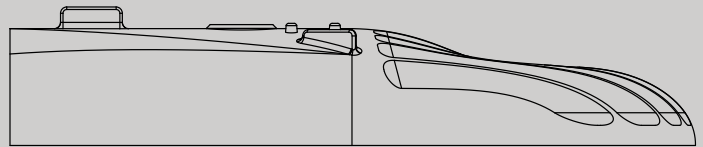
global market







STREET LIGHT



These sleek street lights, based on LED technology are designed for Shenzhen Eastfield Lighting Co and intended for the American Market.

The top has a fin for affixing pigeon spikes and cooling radiator fins.

A top-mounted light sensor allows for automatic on/off switching and the streamlined design is in stark contrast to traditional street lights.

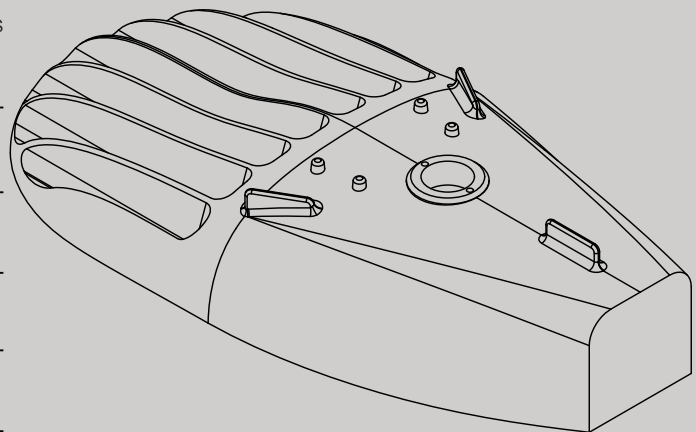
The LED technology is now, not only very widely used but is mandatory in Europe.

Eastfield China

2017

9.000 units

USA





SMART BRACELET MAYA

This bracelet is designed for users with a heart attack risk. It detects a possible heart attack and makes an emergency call to a previously specified number. It also detects strong impacts or falls.

Maya Malaysia

2016

5.000 units

Malaysia



SMART WATCH



This is a smartwatch, specially designed for kids between 3 and 9 years old, which unfortunately never left the concept stage. The technological part is a plastic shell that can be removed and inserted in different silicon rubber cases that suit different ages and uses. The product contains a nano sim card to call two previously recorded numbers and a third number for help. It also receives SMS messages and is easily chargeable via MicroUSB. The Android and iOS App can check the position of the watch at any time and send personalised instructions or vibration alerts.

SGL China

2014

concept

none







COSMETIC PACKS

This series of products was born out of a new fashion, popularised by YouTubers known as “depotting”.

This is simply the practice of removing a makeup product from its original container and placing it into a more practical packaging.

The first commercial cosmetic packaging was designed with ‘depottable’ pans.

Women and professional make up artist can now create their own colour palettes and play with different sizes of packaging.

This product has contributed to creating the commercial success of the company that started selling more pans and less packaging.

Kiko Italy

2010

30.000 units

global market



FOOD TESTER

This device tests the sugar content and radiation levels in fruit, vegetables and meat. Connected with its own Android and Apple app, it tells the user if the product is safe for consumption. Conceived for hospitality and restaurant facilities in China after recent food industry scandals, it has also been successful as a consumer product in Europe.

Sinofly China Italy

2017

5.000 units

global market





FINGERPHONE

This device is a phone for people who don't want to carry a phone. Suitable for outdoor sport or for children, the device is only able to receive calls, call three emergency numbers and play music. The ring has raised pins, like Braille and the shape is asymmetrical, both of which allow interaction with the device without actually looking at it...

Fingerphone China

2012

30.000 units

China



SMARTPHONE VR/AR

This Smartphone, among others, has been designed for one of the largest phone manufacturers in Shenzhen and represents a conceptualisation of the future market of smartphones. There is a strong accent on multimedia with twin external cameras, two selfie cameras, panoramic view, a double screen for multitasking and a lateral touch bar that changes status according to which Apps are running, VR/AR functionality (due to the folding mechanism, the space of the VR Headset is sensibly reduced). Elements of this design will be used to develop new products later the years.

ZTE China

2015

concept

global market



IPHONE DOCK

This product was created at the time when everybody was fighting over the sizes of Apple accessories because the iPhone Plus series had recently been released onto the market. As well as a stand, this dock also acts as a memory booster for the phone and solves the size problem as it can be used on both sides.

+ Dot Switzerland

2013

10.000 units

global market





SMARTPHONE COOL

This simple phone has been designed for COOL, a ZTE spinoff. The phone doesn't have a SIM card but only Wi-fi connection. ZTE, with its provider Asia Cloud, is very strong in the Pearl River Delta area where they have a dense the Wi-fi network. That area is typically a factory area where the workers spend most of the year outside, going home just for Chines New Year.

This phone takes advantage of the Wi-fi network and it's capable of making and receiving phone calls through it reducing to zero the monthly bill.

COOL China

2017

30.000 units

China





SMART SWITCH

This device tests the sugar content and radiation levels in fruit, vegetables and meat. Connected with its own Android and Apple app, it tells the user if the product is safe for consumption. Conceived for hospitality and restaurant facilities in China after recent food industry scandals, it has also been successful as a consumer product in Europe.

Hone Leaf China

2016

10.000 units

Asian market



AIR PURIFIER

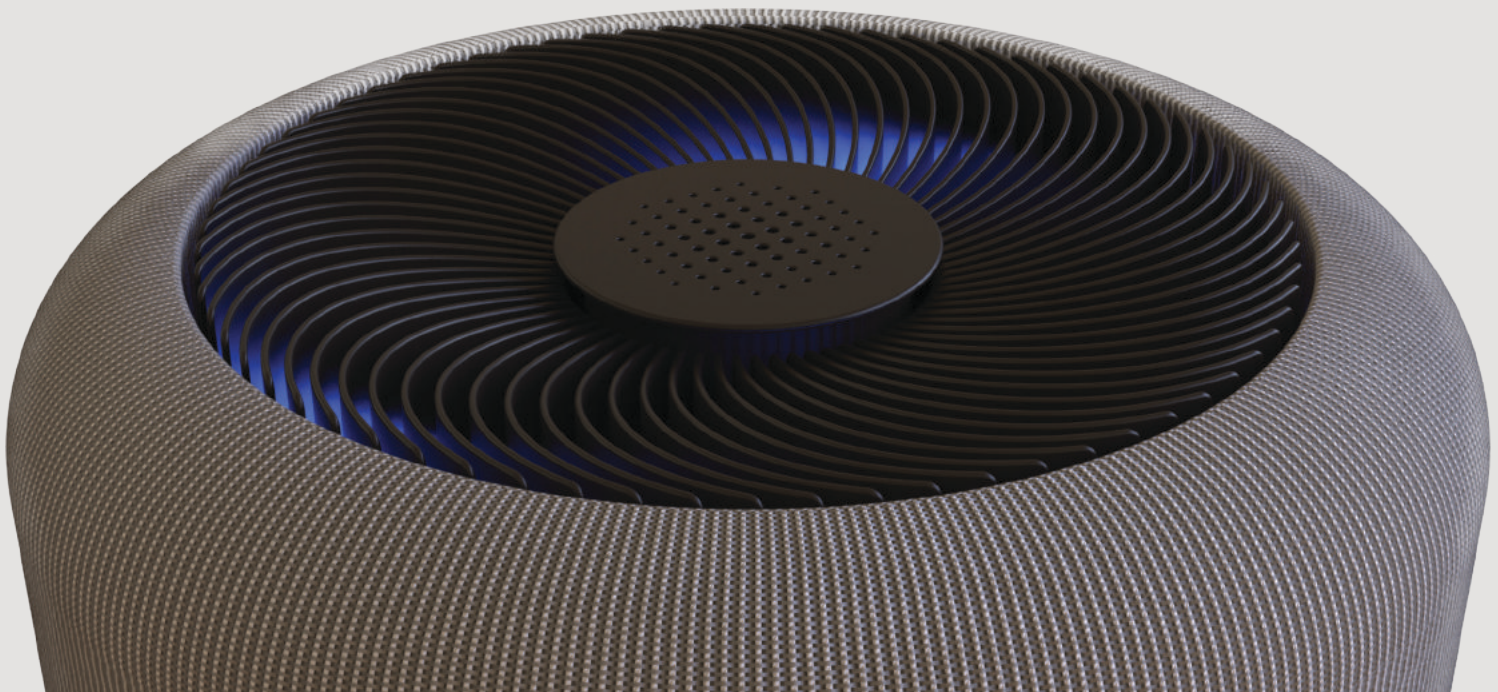
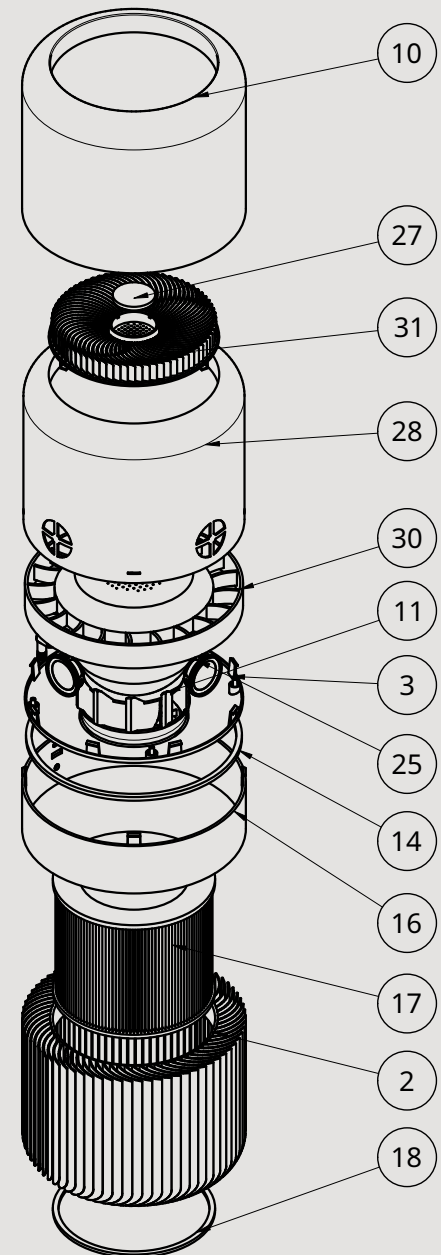
Air Purifier for the European and North American markets. A state-of-the-art air purification system. This sleek and stylish device not only cleans the air in homes or offices but also features a built-in speaker array and LED ambient light for added convenience and enjoyment. The SunLed Air Purifier uses advanced filtration technology HEPA to effectively remove airborne pollutants, allergens, and other harmful substances from the air. With its powerful suction and high-efficiency filters, the air purifier can clean the air in rooms of up to 500 square feet in just minutes. In addition to its air purification capabilities, the Air Purifier also has a built-in speaker array. This allows listening to music, podcasts, or audiobooks while enjoying clean, fresh air. The speaker array has Bluetooth and Wi-Fi connectivity, so it can easily stream audio from smartphones, tablets, or computers. It also features LED ambient light, which can be set to various colours and brightness levels to create a relaxing and comfortable atmosphere in any room. The LED light can be controlled using the included remote, or you can use the device's voice control function to adjust the light settings using simple voice commands through Alexa® or Siri@.

SunLed China

2022

10.000 units

global market





PORTABLE STEAMER

Portable Steamer designed by Tobia Repossi and Nicolò Castagnini for SunLed Shenzhen.

The Garment steamer has a unique design with a capable back water tank. It can be used at home or during travelling. It has no-spilling holes, it is light, compact and durable.

SunLed China

2022

10.000 units

global market

WARMER COASTER

This device has been conceived for SunLed Shenzhen and designed by Tobia Repossi and Nicolò Castagnini. The warmer coaster is a USB type C powered platform that keeps the liquid in the mug always hot. Dedicated to the Asian market, the Warmer Coaster is a perfect office desk companion.

SunLed China

2022

10.000 units

China



ELECTRIC KETTLE

Electric Kettle for the Chinese company SunLed. The device is packed with all the most updated technologies.

The Kettle is a plastic shell with a steel interior, has quick-boil time, 360-degree rotating base, digital water level and temperature marking, touch controls, cool touch body, limescale filter, multiple temperature settings for tea and coffee, keep warm, boil-dry protection and Wi-Fi with App control.

The PCB is extremely small and hidden in the handle, it is connected to a bendable o-led touch screen that takes advantage of the translucency of the plastic shell in order to show the temperature.

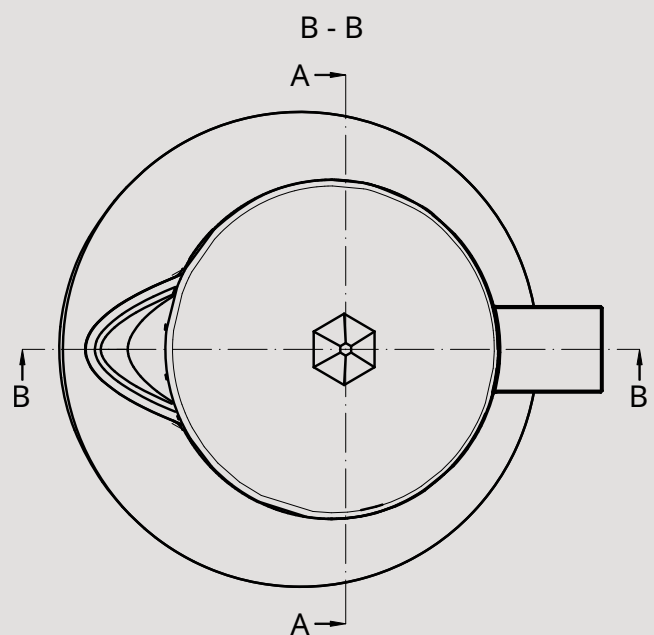
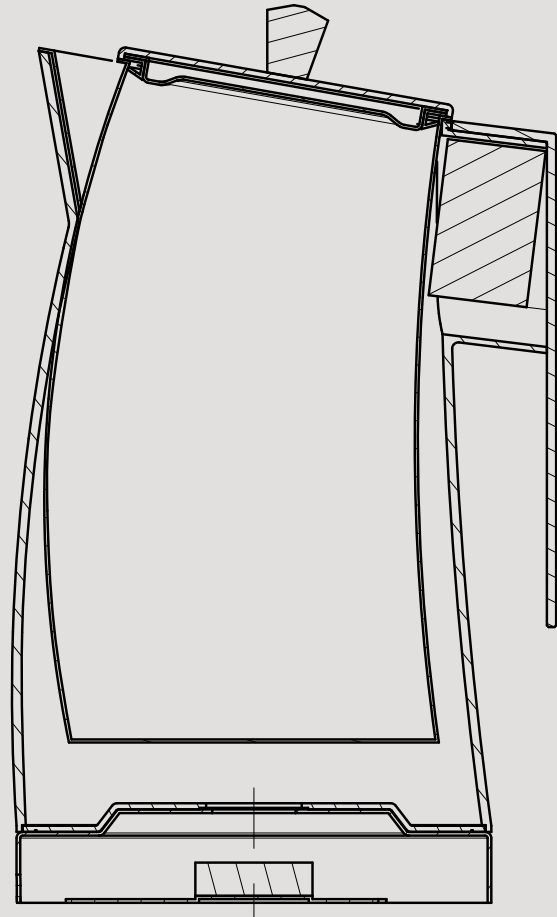
It comes in three funny different gradient colours and will be distributed soon on the European and North American markets.

SunLed China

2022

10.000 units

global market





ELECTRIC SPACE HEATER

Electric Space Heater for the Chinese company SunLed. The Suitable for small-medium rooms it can pivot around the base, it has digital colour display with auto-mode, presence sensor, and ambient light.

Currently under development it will be distributed soon on the European and North American markets.

SunLed China

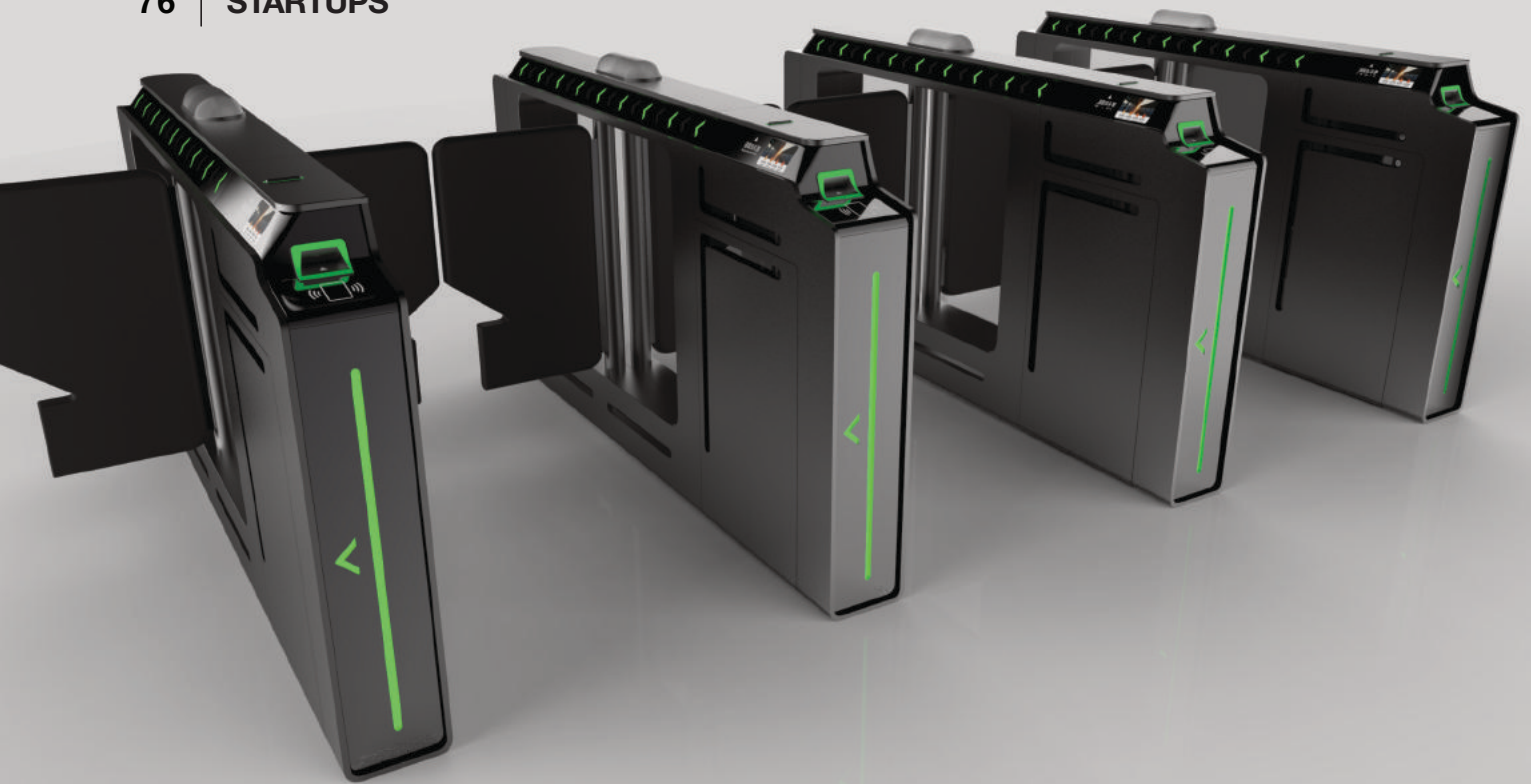
2023

10.000 units

global market







TRAIN SERIES

This was a new series of train ticket machines for Beijing MSHD Technology Co., technically a startup, but a actually a spinoff of a traditional supplier for Chinese train station machinery.

The company wanted to redesign all their products: a desktop ticket printer, ticket emitter and, most important, the platform entrance gate.

All the machines were rethought as a series with common characteristics.

New features like LCD screens and LED strips were introduced to guide the traveller through the entire process.

With this new design, the user can insert the ticket into the machine from every direction, thus saving precious time.

The company intends to install the machines in thirty new train stations all over Asia and in some years expects to enter the European market.

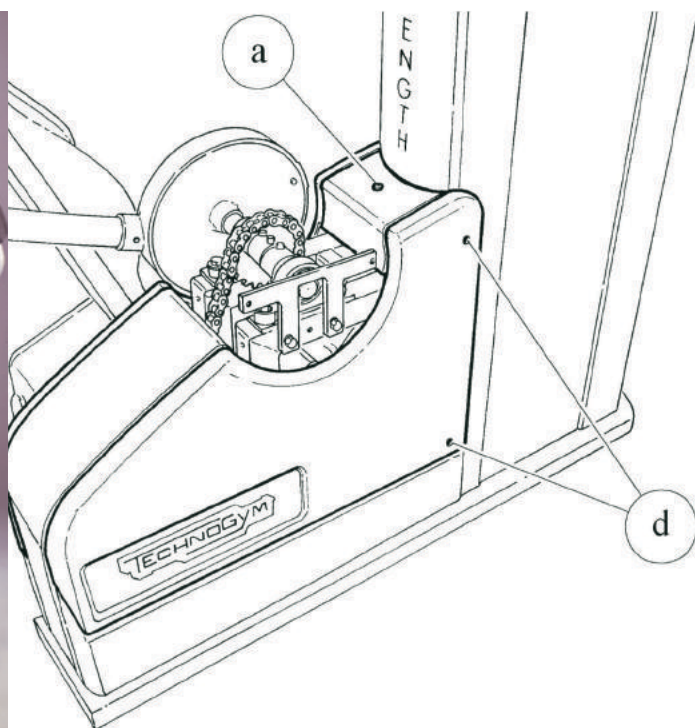
Beijing MSHD China

2016

630 units

China





BIOSTRENGTH

Designed with Cristiano Mino (Head of Design) and Claudio Monti, these machines have been a pivoting point for Technogym. This series projected the company into a brand new market segment, opening the doors to SPA and Hotels around the world.

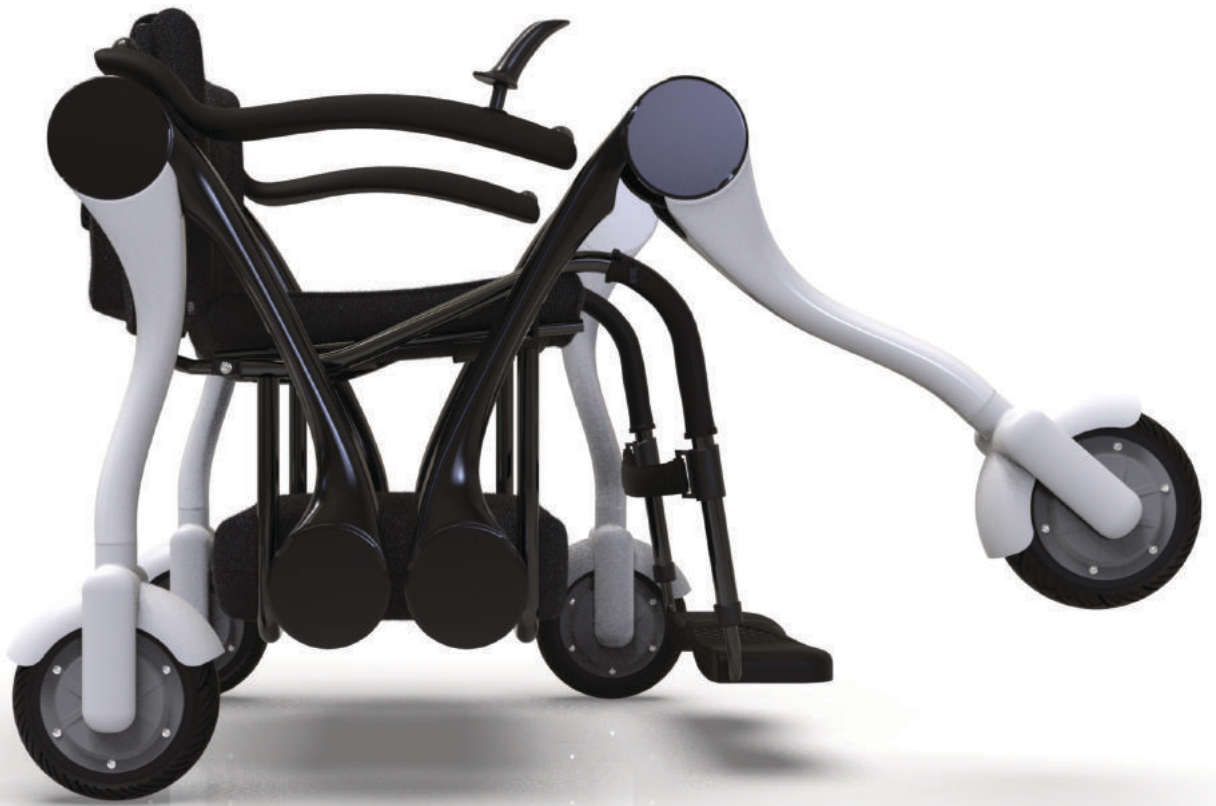
Technogym Italy

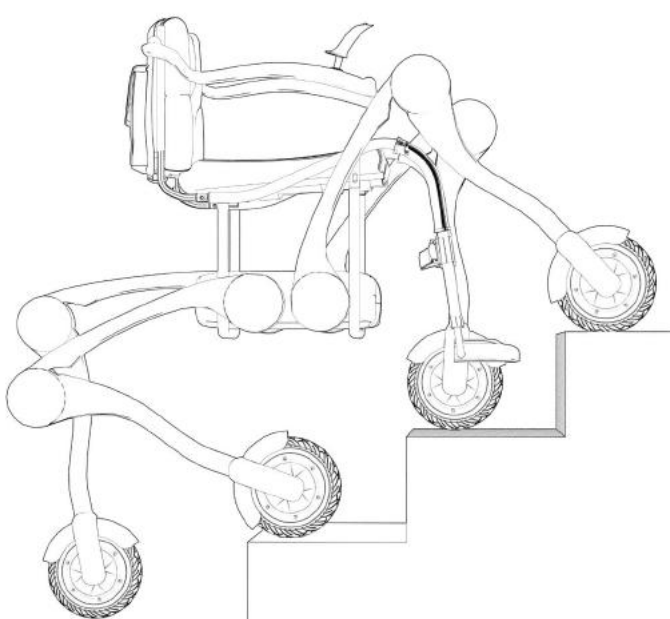
1997

8.000 units

global market







WHEELCHAIR ROWA

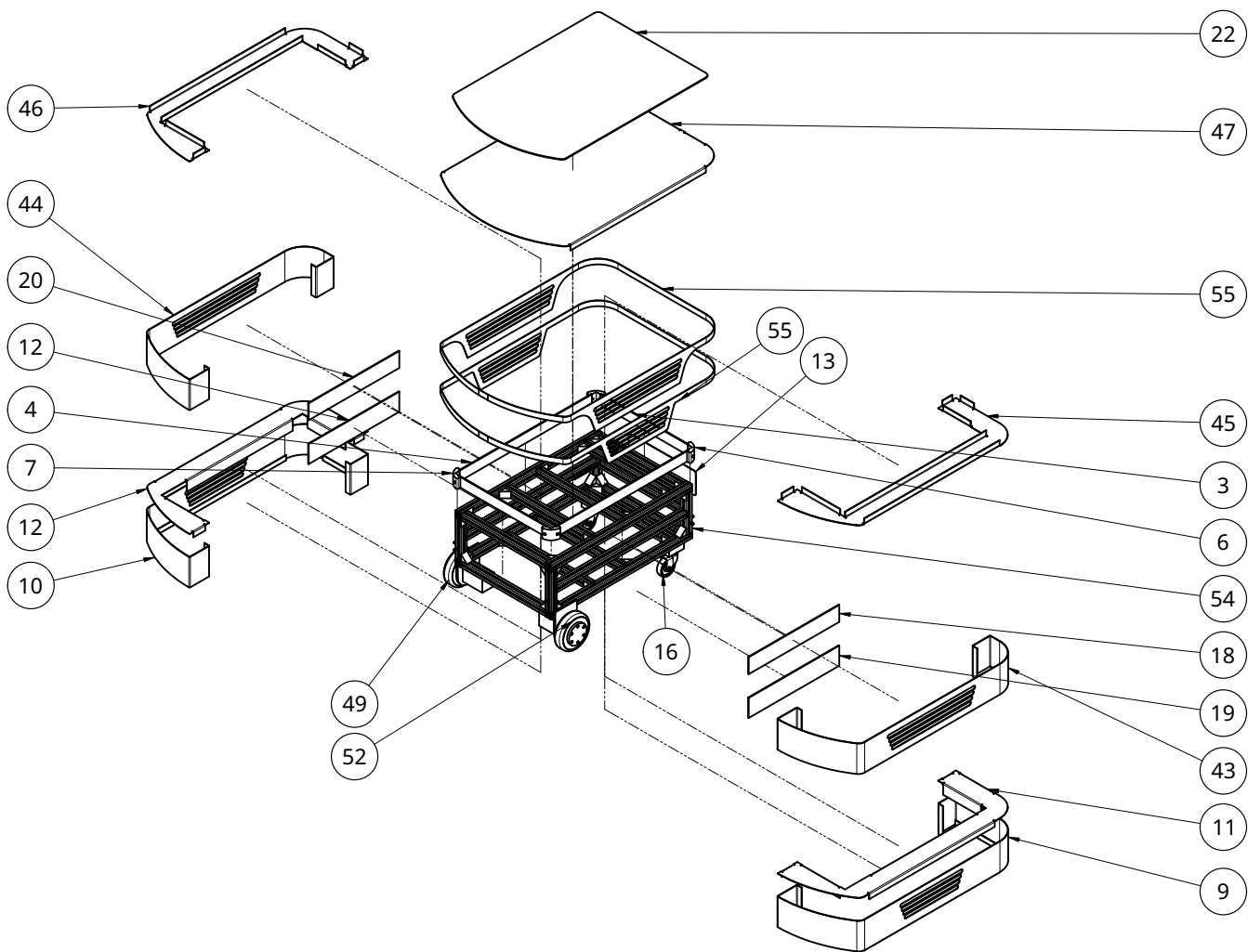
RoWA (Roll and Walk) is the concept of a wheelchair based on servo motors that can roll, walk and climb stairs. It is equipped with cameras and obstacle recognition. The technology can "see" the obstacles and act consequently.

RoWa Germany

2022

concept

none





ROBOT NALA

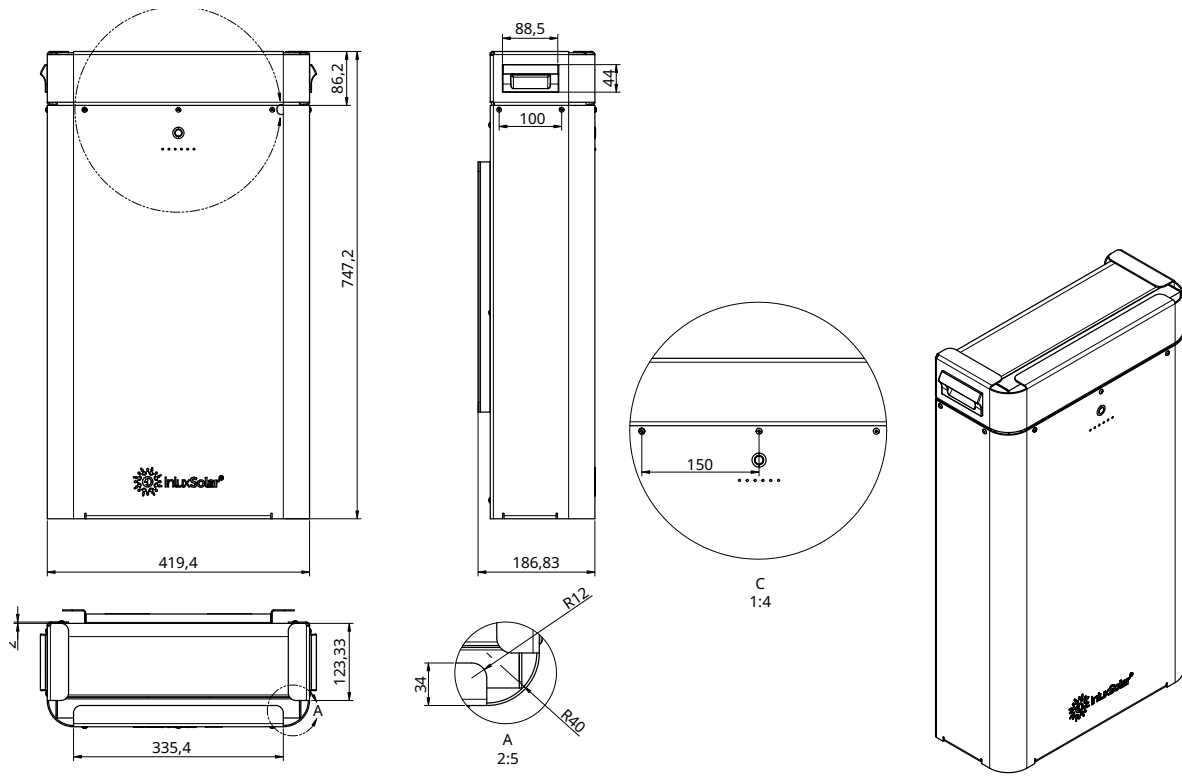
Autonomous moving Robot Nala designed for Eceon GmbH with Nicolò Castagnini and Francesco Barbieri. The device is a full metal body mounted on a steel frame that guarantees reliability and a payload of 450 kg and 12 hours of autonomy. With its Lidars and sensors, the robot can “see” obstacles and humans and move with ease in “dark factory environments”. The robot charges itself in its docking station and doesn’t require human intervention.

Eceon Germany

2023

100 units

global market





WALL BATTERY INLUXSOLAR

Wall Electric Battery designed for Inluxsolar. The device is a rechargeable lithium-ion battery stationary home energy storage product manufactured in China.

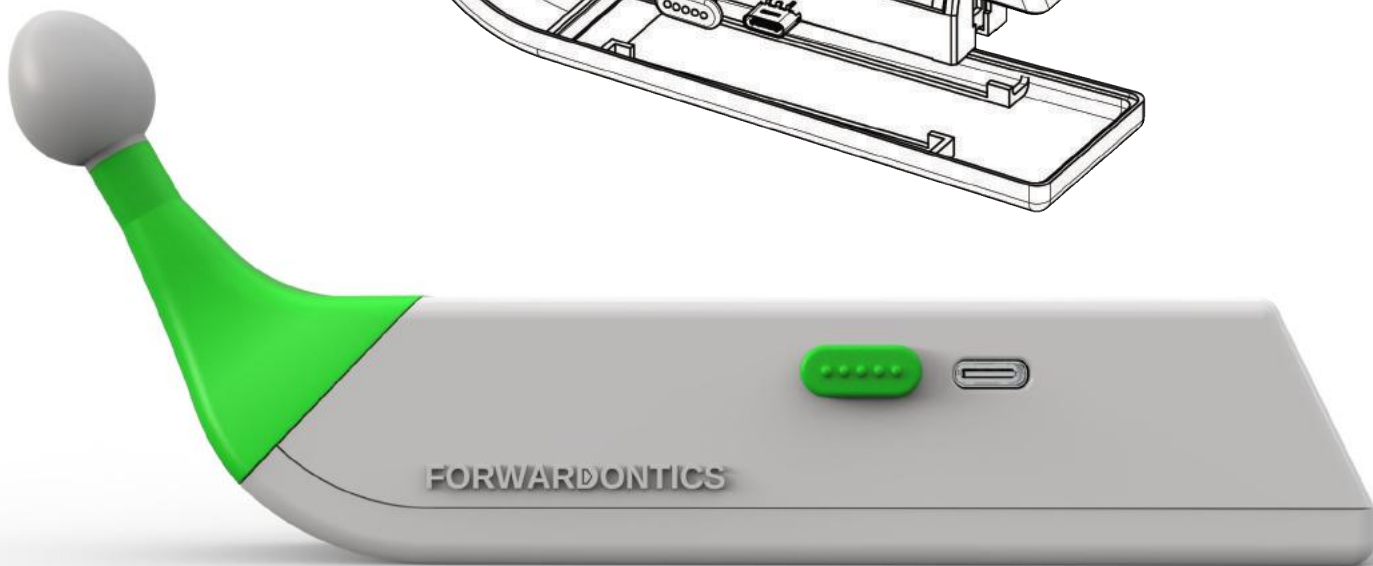
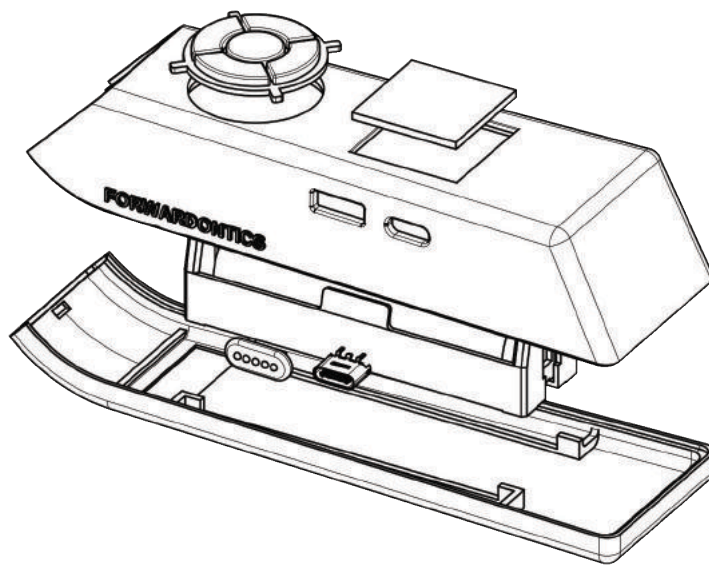
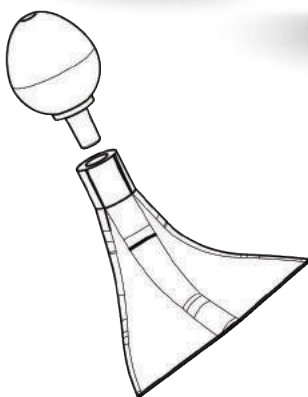
The battery stores electricity for solar self-consumption, time of use load shifting, and backup power.

Inluxsolar China

2023

5.000 units

global market





NASOMETER AND PACIFIERS

Forwardontics is a company focused on treatments to improve the development of teeth and jaws in both children and adults. Forwardontics, in contrast to the remainder of orthodontics, focuses on the face and the causes of malocclusion.

We designed for them a series of three pacifiers and a device called Nasometer that measures the air pressure of nostrils.

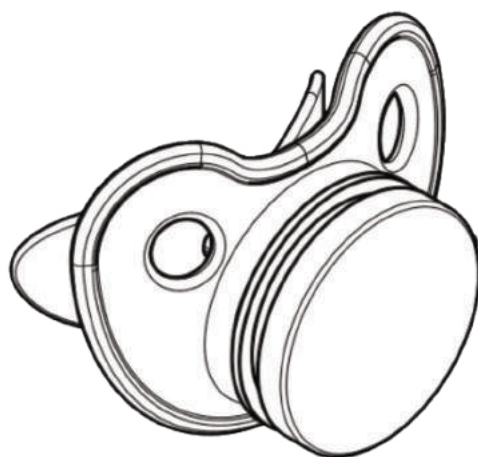
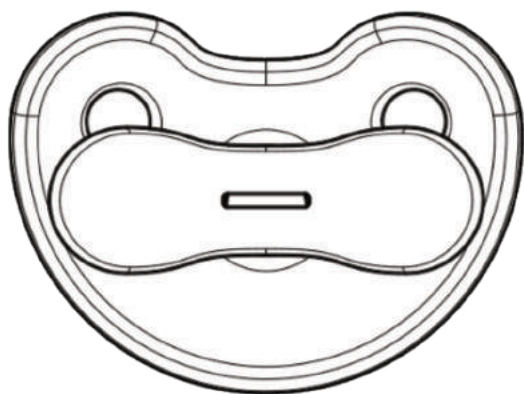
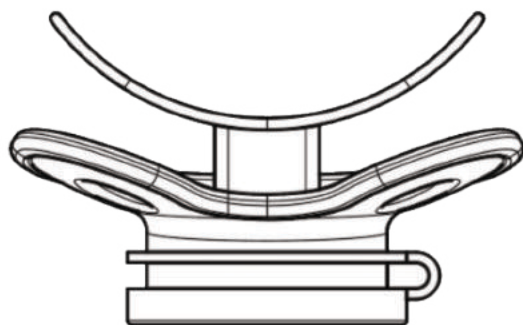
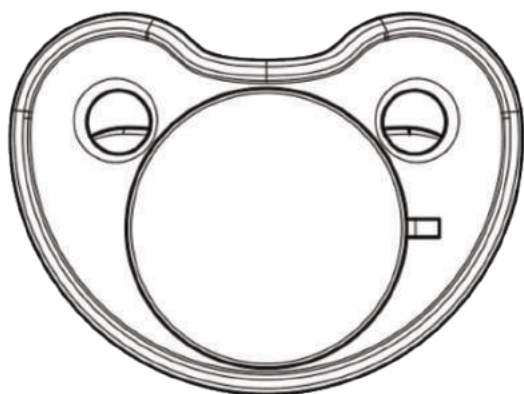
Forwardontics USA

2023

10.000 units

global market







SMART PACIFIER

Smart Pacifier with LED light designed with Innvatech Forwardontics.

The lights turn on when in use, giving parents a clear indication of the breath quality and pace.

Forwardontics USA

2023

10.000 units

global market



DESK HORNBILL

Tobia Repossi and Stefano Ollino designed a new adjustable desk for Hornbill Dubai.

The desk is a device for home and office with a back panel for acoustic and visual protection.

It is adjustable in height thanks to electric motors.

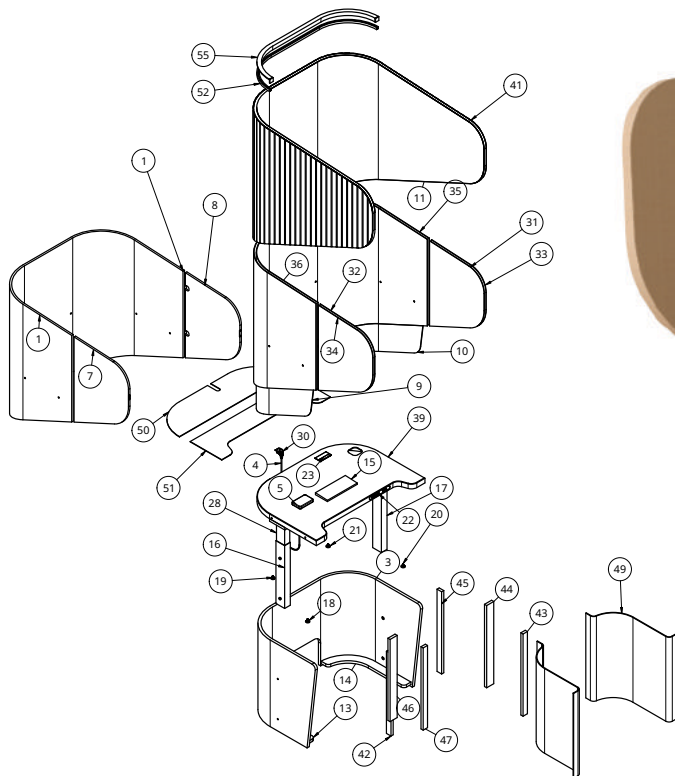
It integrates Led dimmable light, intelligent cable management and sensors for ambient light, noise, humidity and presence.

Hornbill Dubai

2022

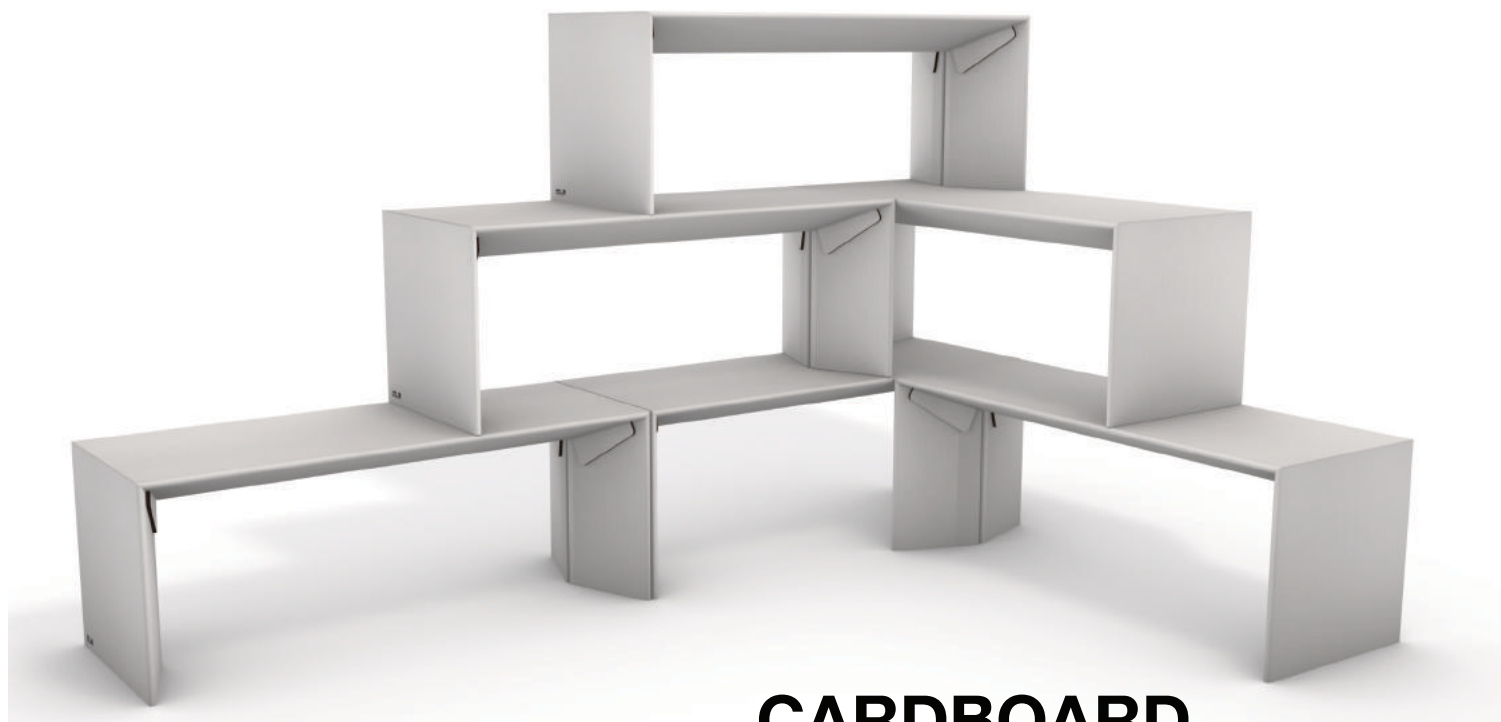
1.000 units

Dubai









CARDBOARD FURNITURE

Triple cardboard is a very light material, easy to transport and assemble and environmentally friendly because it's completely recyclable.

It's ecological, recycled, light and cheap.

In organising events and designing booths and the furniture to be used in them, the question is, how can fairs, events, temporary shops and showrooms be built avoiding a huge waste of material?

The solution is really quite simple: use CARDBOARD!

One of its many beauties is that cardboard can be readily and easily customised with pre-spaced, digital prints.

The series of products that this example belongs to, is entirely made from 80% recycled and 100% recyclable cardboard.

So, when you buy or use cardboard furniture, you have done something extremely good for your planet.

Mobili in Cartone Italy

2005

10.000 units

Europe



FOLDING BICYCLE

Ciclipede was a startup venture which was never a commercial success although there are still a few prototypes used by beta testers in Milano today.

The Ciclipede was supposed to be the first 26" foldable bike made to fit into the trunk of a car, designed in Italy and produced in China.

Although the foldable bike concept with big wheels has been around for a long time, their folding systems always pivot in the centre of the bike, making the movement difficult, the product heavy and space-wasting.

The Ciclipede had a new 'sliding' folding system that folded the bike automatically making the product perfect for commuting.

Ciclipede Italy

2012

none

none





SCIENCE PARK

The Science Park, featuring an innovative collection of over 50 high-quality play equipment pieces, embodies the convergence of interactive learning and aesthetic design. Each piece, crafted in Italy by Modo - Holzhof, showcases the integration of durable materials like stainless steel, known for its sculptural qualities. This park is not only a playground but a dynamic educational hub where scientific principles come to life through hands-on activities.

Awarded an Honorable Mention at the 2004 Compasso d'Oro Prize, the Science Park stands as a testament to cutting-edge educational tools designed to foster interaction and learning through play.

Modo

1996

4.000 units

Italian market









BIKE RACK ARCAS

This metal setll rack Arcas features a spring-like shape with a support that securely anchors the structure to the ground.

Its unique design has inspired similar projects worldwide, demonstrating its versatile and functional appeal.

Ideal for urban settings, this bike rack not only provides a secure spot for bicycles but also adds a touch of creativity to the environment.

Modo

2000

10.000 units

Italian market





ETERE BENCH

The Etere bench features a bent steel frame that supports various types, shapes, and materials for its seat and backrest.

Its versatile structure allows for customisation in design and comfort, making it suitable for a wide range of outdoor settings.

Modo

2003

10.000 units

Italian market









ARCADIA BENCH

The Arcadia Bench is crafted from welded aluminum. Its soft, subtle colour and gentle form allow it to blend discreetly into both natural and artificial environments. Its understated design makes it a harmonious addition to any outdoor space.

Modo

2003

10.00 units

Italian market





SPRING BENCH

The Spring Bench is constructed from extruded tubular steel shaped into parallelepipeds with curved edges. This design creates a playful movement with sinuous forms, offering a comfortable and durable seating option for outdoor use. It's ideal for those seeking a bench with a modern and sleek aesthetic.

Modo

2003

10.00 units

Italian market





DECÀ BENCH

The Decà Bench is composed of steel tubes intersecting in opposite directions to create an outdoor chaise-longue that is both sensual and eye-catching. This unique design provides a striking visual element while offering a relaxed and inviting seating experience.

Modo

2003

10.00 units

global market







Robert Luyao 卢耀

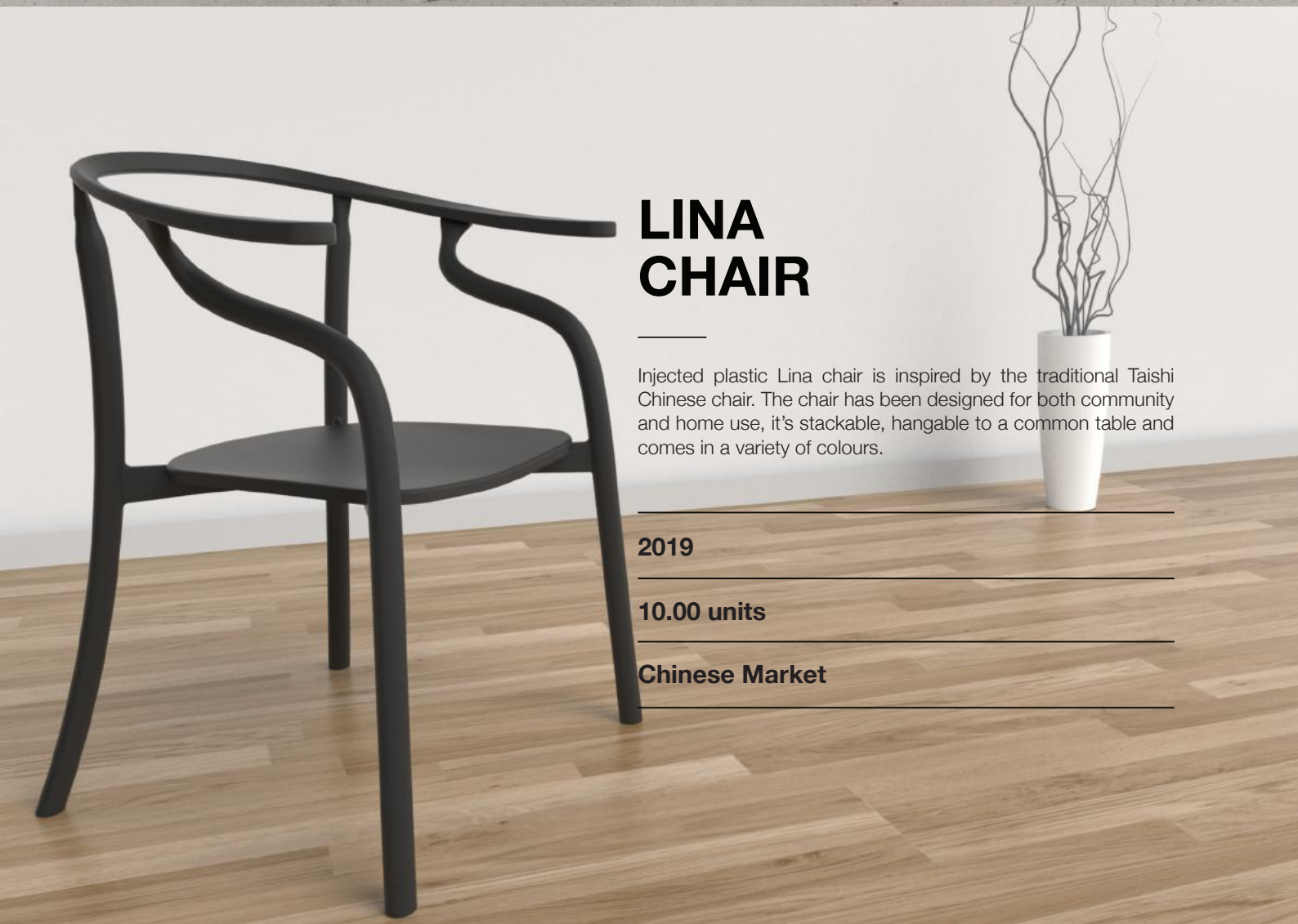
Robert 卢耀 plays a pivotal role in managing client relationships and product development in Asia, particularly in Shenzhen, known for its vibrant electronic startup ecosystem.

As a key account manager, he is responsible for overseeing communication with clients and ensuring their needs are met.

With over fifteen years of experience at the studio, Robert has built a deep understanding of the market and the technical aspects of product development.

His responsibilities likely include liaising with clients, managing product development projects, and coordinating with various teams to ensure smooth operations.

Given his extensive experience, he brings valuable insights and expertise to the team, contributing to the studio's success in the competitive Asian market.



LINA CHAIR

Injected plastic Lina chair is inspired by the traditional Taishi Chinese chair. The chair has been designed for both community and home use, it's stackable, hangable to a common table and comes in a variety of colours.

2019

10.00 units

Chinese Market

TABLE CP 21 GALLI MARMINI

We designed, with our Partner Claudio Pironi, a new marble and steel table for Galli Marmi, which marks the first in a series of products emerging from their renewed collaboration.

The table is available in various sizes, with the largest featuring an expansive 240 x 90 cm marble surface. It has a stable double Y-shaped steel base that comes in three distinct finishes: brushed steel, black-painted steel, and brass.

The table's top showcases luxurious Italian marble options, including Verde Alpi, Calacatta, Rosso Francia, Nero Marquina, and Arabescato Corchia.

Galli Marmi

2022

100 Units

global market





SERIES MESSAGE

The Message series includes a table, a bench, a trash bin and chaise- longue, all designed with a consistent style that combines wood seats with bent aluminum frames. This series balances natural and industrial aesthetics, providing a durable yet elegant option for outdoor spaces.

A unique feature of this series is the ability to attach custom aluminum plaques, allowing clients to personalise each piece with messages, branding, or decorative elements.

Holzof

2024

1.000 units

global market





VICTORIA CAROLINE ADAMS & DAVID BECKHAM





THE KNOT

An innovative playground named "The Knot", developed by TR & Partners for Riyadh in preparation for Expo 2030.

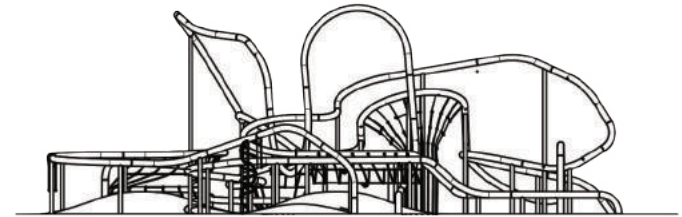
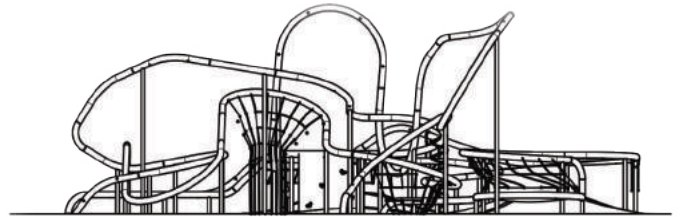
The design concept is based on the idea of a knot that creates connection and unity. The playground creates an intricate assembly of modular tubular elements: this entanglement is not merely ornamental but serves a functional purpose as a framework to which various play elements and structures are attached, creating an interactive and engaging play space.

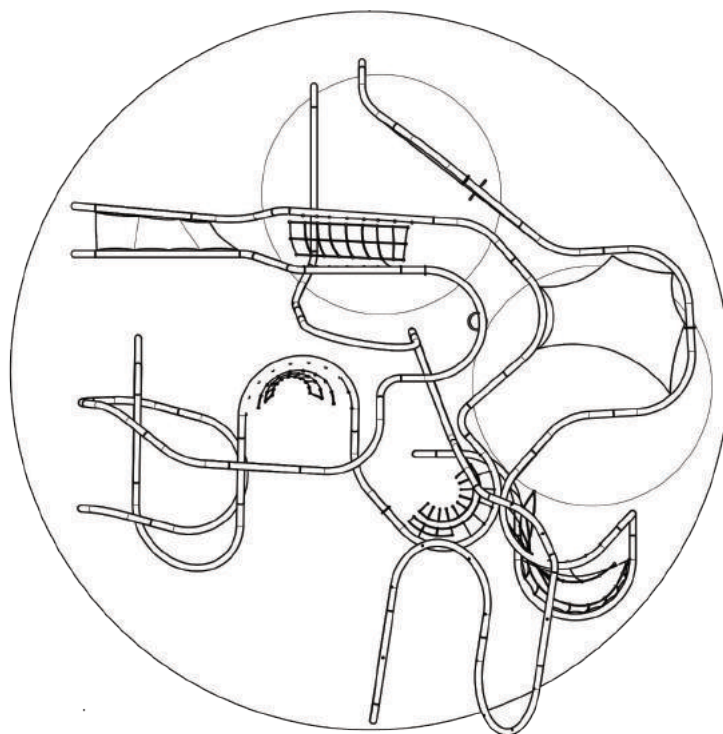
Riyadh Joyous Gardens

2023

30

UAE market





CONCEPT CAR

This concept design illustrates an advanced hybrid hypercar, engineered specifically for racing.

The vehicle is crafted to accommodate three passengers and integrates a high-performance hybrid powertrain. Its sleek body is constructed entirely from carbon fiber, ensuring optimal strength and reduced weight for enhanced speed and agility on the racetrack.

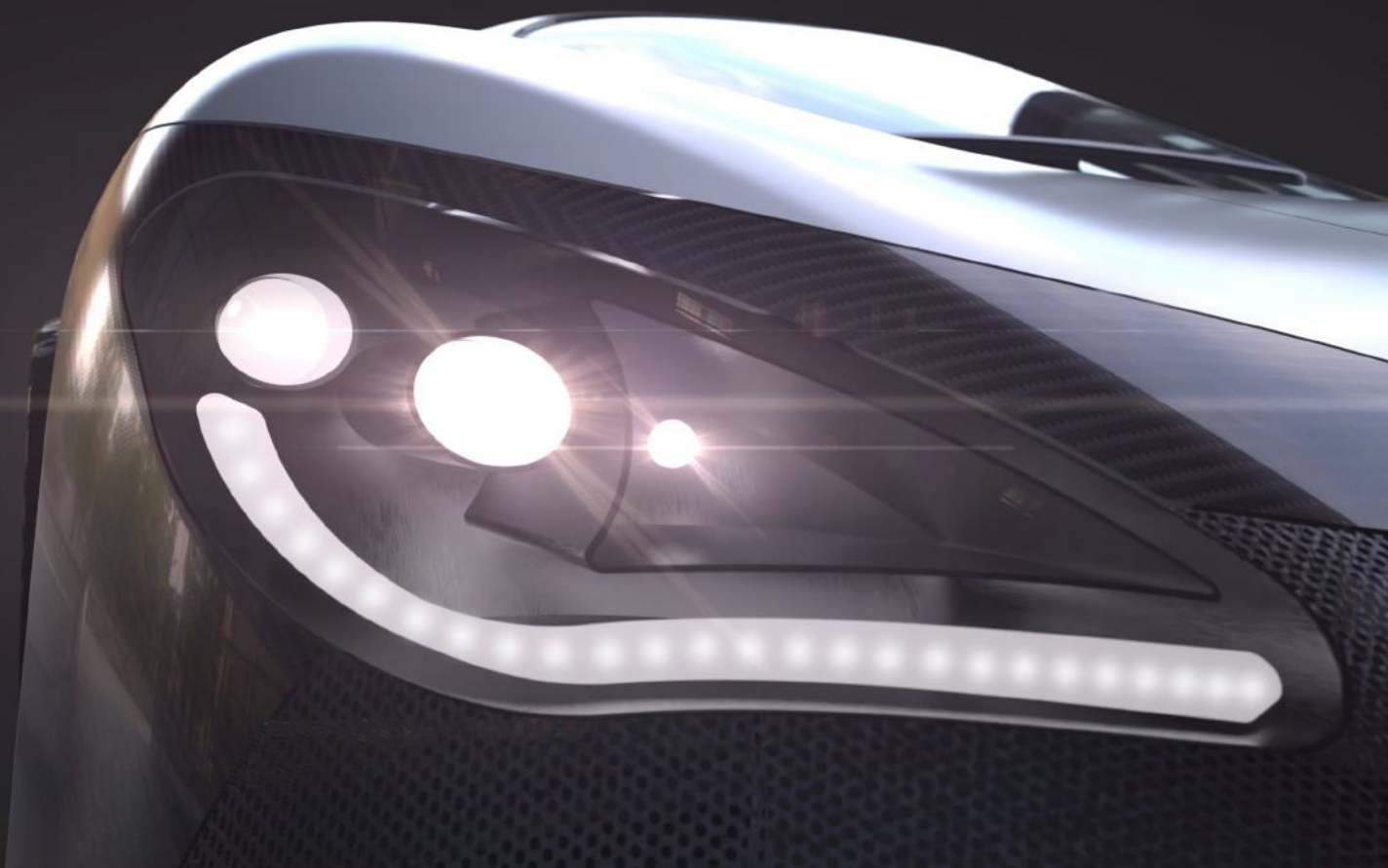
This innovative design merges cutting-edge technology with sophisticated aerodynamics to deliver unparalleled performance in competitive racing environments.

Opera Aurea

2023

none

none





CAR HANGER

This project was developed in collaboration with a company based in Abu Dhabi, UAE.

Arabian thobes are long and delicate garments, often requiring cleaning and ironing at laundry shops. They are then delivered with metal hangers in plastic bags for transportation.

Due to their considerable length, the dresses are challenging to accommodate in Western cars and cabinets in their entirety.

This specially designed hanger enables the folding of men's thobes or women's abayas twice, allowing them to fit inside cars for transportation or storage.



Arabic Start Up

2024

5.000 units

global market



SMART HAIRDRYER



Designed for Lady Merry, based in Shenzhen, this cutting-edge hairdryer combines compact, market-driven technology with user-centric ergonomics. The device features an angled handle for ease of use at home, integrating professional-grade elements like overheating sensors and a variety of accessories. It also includes a smart mode with presets specifically tailored for different hair types, ensuring versatile and safe styling options.

Lady Merry Shenzhen

2024

10.000 units

global market



A-LIGHT

In our recent project with A-light, a leading designer and manufacturer of equipment for auto body shops, we dedicated ourselves to a comprehensive redesign of their main product line.

Our efforts encompassed not only the functional redesign of the tools but also a thorough revamp of the corporate visual identity.

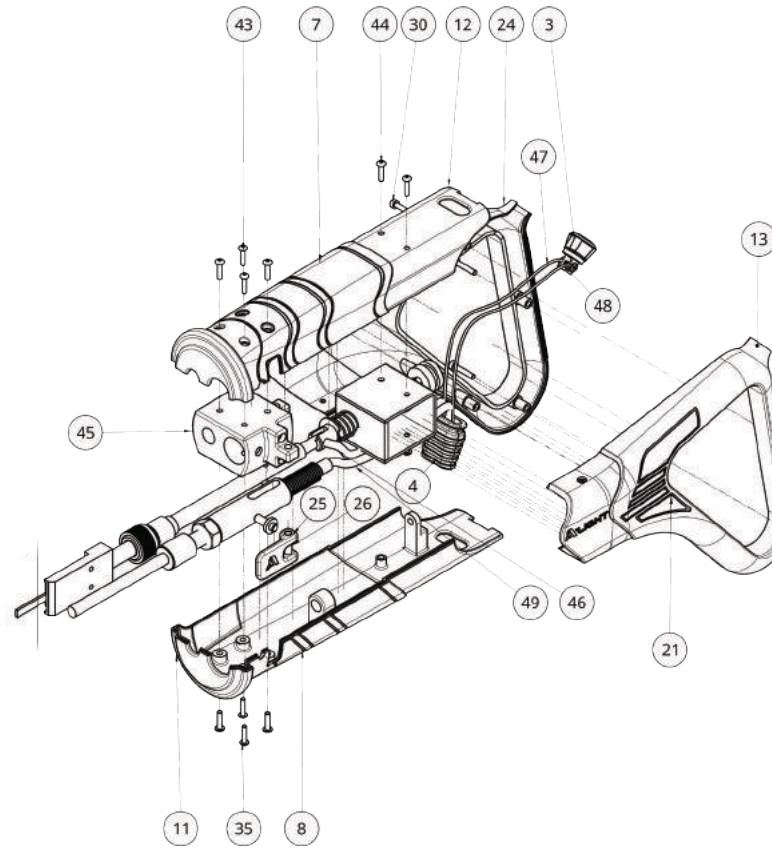
This cooperation aimed to enhance both the usability and aesthetic appeal of A-light's offerings, aligning them with contemporary standards and market expectations.

A-Light China

2024

10.000

global market









AWARDS

2024



Ranked 50th in the World for Electronic Devices



Ranked 2119 Most Influential Designer



Jury Member

2023



Ranked 50th in the World for Electronic Devices



Ranked 204 Most Influential Designer

2023



Ranked 50th in the World for Electronic Devices



Winner A' Design Award for Camera Vista Coolr Group



Bronze Winner for Table CP21

2020



Ranked 47th in the World for Electronic Devices



Ranked 1701 Most Influential Designer

2018



Ranked 35th in the World for Electronic Devices



Ranked 288 Most Influential Designer



Jury Member



Arkin Innovation Hub

2017



Ranked 25th in the World for Electronic Devices



Silver Medal A' Design Award for Non Contact Thermometer Visiomed



Ranked 352 Most Influential Designer

2017



Ranked 1006th Most
Popular Designer



International Bureau of
Service Providers



International Society of
Product Manufacturers

2016



Red Dot Design Award
for Hezz Kitchen
Lunchbox



Silver Medal A'Design
Award for Maikii
Powerbanks



Ranked 351 Most
Influential Designer



Shenzhen Industrial
Profession Association

2015



International Council of
Creative Industries



Silver Medal A'Design
Award for Relaxment
Speaker Lamp



Red Dot Design Award
for ZTE Cool
Smartphone



International Design
Club

2014



Modern Interior
Decoreation Award for
ZTE Routers



Tobia Repossi &
Partners China



Red Dot Design Award
for Fingerphone



Red Dot Design Award
for 3rd EYE Vr Glasses

2011



International
Association of Design



Design for All
Association



Jury Member



Italian Design
Association

2010



Mediastarts

AWARDS

2006



Adi Design Index for
Pisolo

2004



Honorable Mention
Compasso d'Oro for
Science Park



Mini design Award

2003



Adi Design Index for
Marconi Museum



European Bureau of
Design

2002



Adi Design Italia

1998



Ordine degli Architetti
Sez A 533

1996



Ikea Young Design

TR & Partners designs for clients who have the ambition to develop new concepts and products with high standards of design and execution.

These projects have been developed for young startups from the Valley, India and China. Electronic appliances, accessories and many iconic products sold in major chains worldwide.

It's a unique approach to the project, built out of accurate research and analysis, strong mechanical and industrial background to help at the best, the best innovators.

This book is a collection of projects designed during decades in the hardware startup field, but not only.

Some of them are good, some not so good.