

MW

Mirko Wittka

Industrial Design Portfolio



Please note

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Education

11/14	1991	Date of Birth Bergisch-Gladbach, Germany
1998 until	2000	German Elementary School Yokohama, Japan
2000 until	2002	Elementary School Rösrath, Germany
2002 until	2011	Freiherr-vom-Stein Gymnasium Rösrath, Germany HONORS DIPLOMA
since summer	2011	University of Wuppertal Wuppertal, Germany B.A. INDUSTRIAL DESIGN
during semester	14 15	Shih Chien University Taipei, Taiwan EXCHANGE PROGRAM
during spring	2016	Graduation as B.A. University of Wuppertal HONORS DIPLOMA



Experience

since summer	2009	Self Employed web design, coding, seo, marketing
since summer	2011	Regular Workshop Experience modelmaking, rapid prototyping
during spring	2015	Industrial Design Internship 1.5 months at made design, taipei
during summer	2015	Industrial Design Internship 3 months at qisda corp, taipei
during semester	15 16	Industrial Design Trainee 6 months at dingfest design, dusseldorf
since spring	2016	Freelance Industrial Designer at noto, cologne



Thoughts on Methodology

- 1** Research Phase
The exploration of conditions and evaluation of boundaries leads to a reasonable and arguable starting point. The level of its abstractness defines the upcoming process and highly depends on the project's involved parties and their underlying intentions beyond the research itself.
 - 2** Ideation Phase
Generating ideas without stumbling into explicit solutions requires both, a systematic strategy as well as a certain level of abstract thinking. Opening up the horizon usually creates a more diverse setting, but also bears the risk of losing track of the bigger picture and especially the aspects defining it.
 - 3** Concept Phase
Tying up developed ideas together with underlying problems, creates a variety of possible solutions, usually oscillating in quality on their own as well as in context with each other. Simulation can be a viable tool for validation, but should not overrule reasoning or be the result of a lack of it.
 - 4** Design Phase
The creation of a thing, no matter if it's a physical object, abstract process or systems approach, means defining a steady set of rules as a withstanding, coherent bond. Therefore, the quality of its elements is fundamental for the quality of the outcome and an overall consistency should be an essential target point.
 - 5** Implementation Phase
Depending on the nature of a project, the last step of implementing what one has developed so far, bears some of the biggest difficulties. Confrontation with immutable real-world conditions are the final proof of the project's essence in terms of reasoning and require diverse skills in communication within an ever changing interdisciplinary context.
- !** Holicity of Phases
No matter which discipline, being able to step backwards and re-evaluate the present state of a project in its overall context, is a crucial aspect of every design process. Otherwise, it is quite easy to lose track of initial intentions and reasons behind what one's doing - only running forward for the sake of running itself.



1 Product Studio A

Development of a portable light-emitting product, suitable for an outdoor environment.

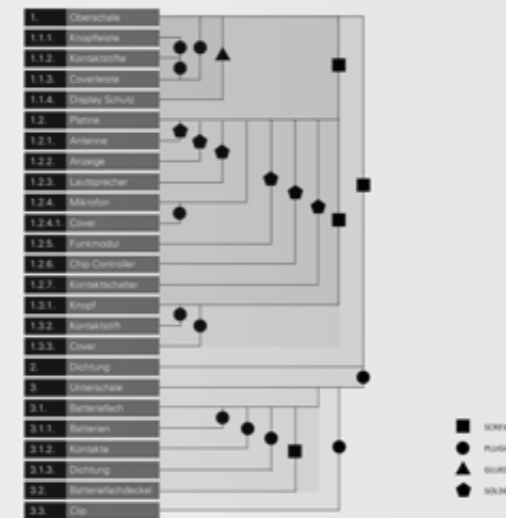
This class consisted of multiple steps, each covering a different product area and a different focus of design tasks like market research, conceptualization or actual design exploration. The final task was to create an outdoor light-emitting product where the outcome could be either a flashlight, a lantern or a similar product.

For the first time during my studies, this project covered all methodological aspects from early research to concepts and final prototyping.

Kaltweiß is a durable flashlight to be used on hiking trips and alike, where you only need a light source from time to time. Therefore, the main requirement was easy storage and handling.

An auto pull-back steal wire in the back of the flashlight extends the mounting-function, so it is attachable to your backpack, your tent or tree if you are hiking and you can reach it without dismounting it.

To activate the light, the head has to be pushed to the front and multiple levels of brightness are chosen by turning the upper part.



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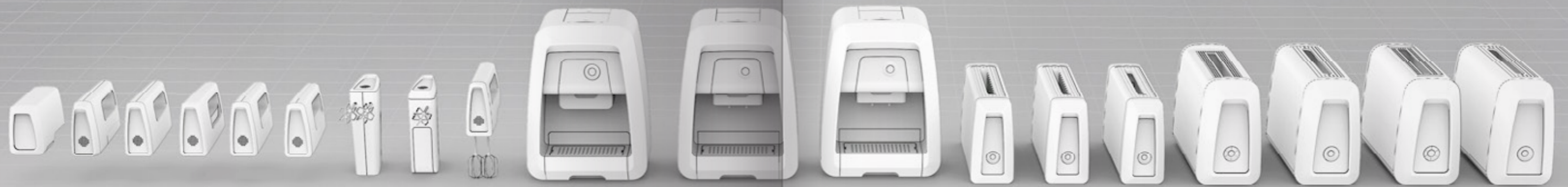


2 Technical Studio

Development of a hand-held radio unit for usage in non-tactical environments.

After learning how to perform use-case studies in project 1, the main purpose of this class was to comprehend the process of technical construction to develop and create a realistic, industry-friendly prototype and use gained insights to strengthen the product instead of getting the concept cut down by manufacturers and engineers. Starting with a full disassembly of an existing walkie-talkie unit, I learned how to arrange and fit technical components in to the housing and how to define sufficient strong construction- ribs and -walls. Especially the sealing to provide dust- and water-protection was highly interesting.

The newly developed product is a reduced group communication device to be used in business environments like trade fairs. Color indicated units can be pre-configured with a corresponding software to create and link groups or define user rolls and rights. Simple formal elements, a simple interface and the metal clip place this product into its professional environment and contrast the usual rugged shape of walkie-talkies. A detailed animation of the construction and the logic behind the software as well as a charging system can be found on Vimeo: <https://vimeo.com/83485858>



3 Form Studio B

Development of a corporate design language for a series of kitchen appliances.

Creating formal concepts which can be adapted to a range of different products is a lot more complex than designing just a single device. Therefore, the overall research process for this project covered only formal aspects found in existing design languages and formal aspects that make these products represent a closed family while still maintaining individuality to a specific degree.

The task was to create a design language and apply it to three different kitchen devices, while these should be a combination of static- and handheld-devices.

A conical, gently curved base shape combined with a strong chamfer element is the uniting main structure. Geometrically shaped details allow enough space to be adapted to the product's requirements but do still fit into the group's appearance.

Refining all these details in CAD using SolidWorks, allowed me to strengthen my modelling skills and improving the surface quality as well as speeding up the overall draft process.



BOSCH

4 Vision Labs A

Development of future orientated solutions for Bosch® PowerTools.

As this visionary project is affiliated to Robert Bosch GmbH, I am not allowed to reveal any detailed information to the public within the next five years.

Our task was to evaluate upcoming technologies and their potential benefits for the PowerTools sector in 2020. Our main research phase was performed in a group of 15 students covering both, theoretical analysis of technologies and procedures as well as hands-on experience of tools. Later on, groups of up to three students continued working on different concepts to present a vast range of solutions to the company.

The main project I worked on together with Benedikt Glöß and Verena Kuck, was an approach of bringing well known visual aids and the possibilities of digital computing to the analog environment of tools.

In order to make this idea work on the huge range of different products we were confronted with the second project implemented a unifying meta element. This more strategic concept aimed at creating a closer connected eco-system of tools, accessories and supply while giving us a far more reliable and cost-efficient way of implementing the concept mentioned before.





Multiple Target Groups

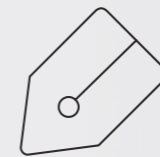
Furniture Manufacturers

Specialized companies offer more expertise in manufacturing and therefore extend the possibilities of Linak® compatible parts. Design affine partners like Vitra® also higher the visual and aesthetic competence in a cooperation with Linak®.

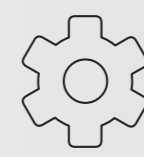
End-Users

The end-user gets a more tailored solution as he can influence the functional as well as the visual aspects of his height-adjustable table or group of tables - including matching add-ons like drawers and roll containers.

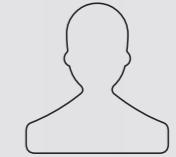
PHASE 1
CONCEPTS
DESIGN



PHASE 2
PRODUCTION
ASSEMBLY



PHASE 3
CONSULTING
SALES



5 Vision Labs B

Development of a strategy to ensure a long-lasting, uniquely strong market position for Linak®.

Linak® as a company is currently only present for a short period of time during the cycle of producing and selling height adjustable furniture. They only provide other manufacturers with a variety of lifting elements and therefore miss a lot of significant ways to improve their own market relevance.

In order to design a new table, it is highly important to understand the logic behind the performed working processes and areas of action. An only survey helped us to retrieve specific information about aspects on and around the table and its user, like power sockets or drawers.

The key concept for Linak® is a new and unique lifting module being the most inner element of a versatile system. Separating the height-adjustment from the table's leg, made it possible to design a compact and flexible component that allows ergonomic adaption while not influencing the overall appearance of a given table. All other components from actual legs to tabletops or ad-dons, are then shaped in corresponding different design languages during regular cycles (e.g. one new "design" per year) together with partners.

This project was done together with Lisa Rotzinger.

Implemented Values

Expandable Basic System

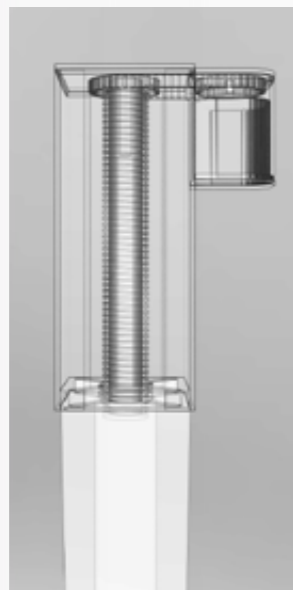
A unique and expandable system of recurring components allows a more flexible structure in assembly and lowers production costs as parts are getting standardized.

Long-Term Corporations

Closer relationships with other industry-specific companies higher Linak®'s visual presence, strengthens the overall market value and offers a dozen of new monetization channels.

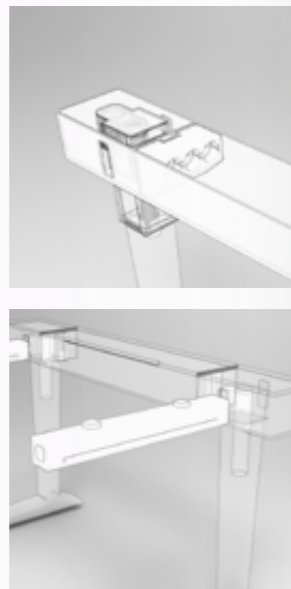
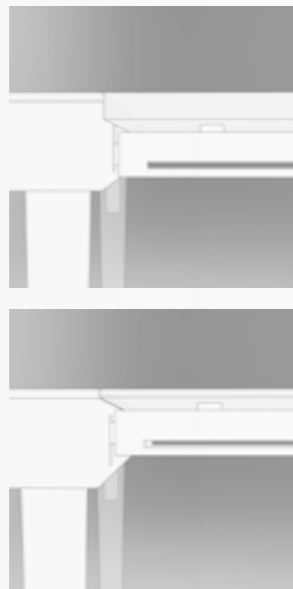
Image Change

To bring height-adjust-ability and it's health benefits to a larger target audience, it is important to create not only an ergonomic table but also to make the people using it and improve their aesthetic value.



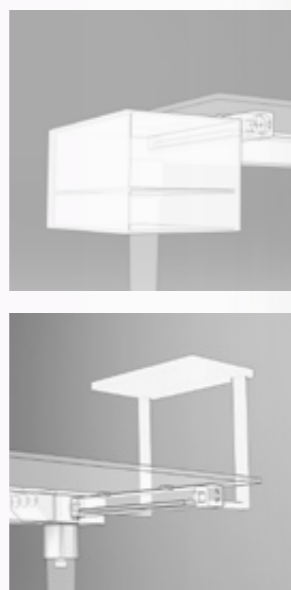
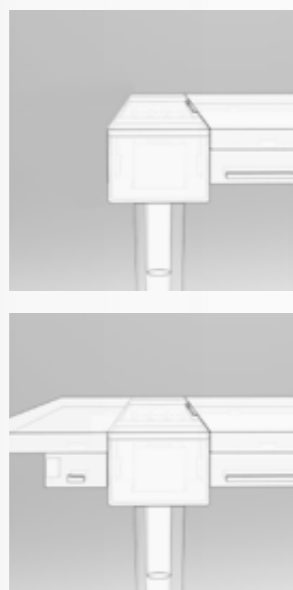
1 | Base Structures

The first level covers the basic system units including the Linak® lifting module and in-built solutions for cable management and electrification of different upcoming elements.



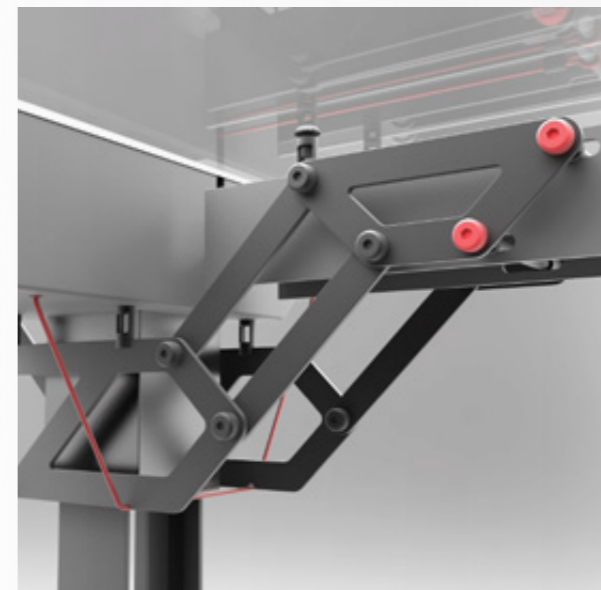
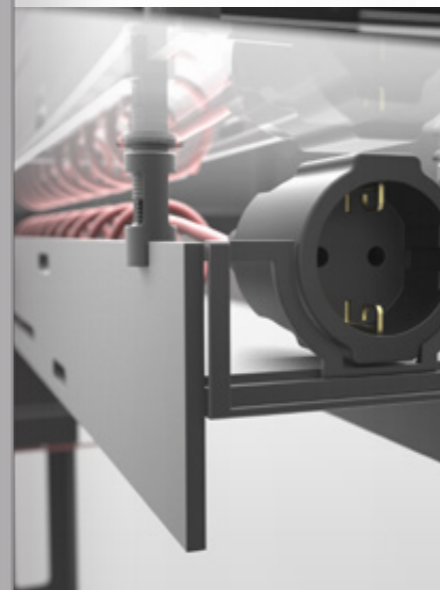
2 | Connectivity

Level two is focused on the intelligent connection between the parts of the produced basic system. This step also offers the new bases for a variable assembly process in further steps.



3 | Workspaces

The last level brings the versatile system to its maximum in flexibility as workspace areas and additional elements can be added to the corresponding structures.

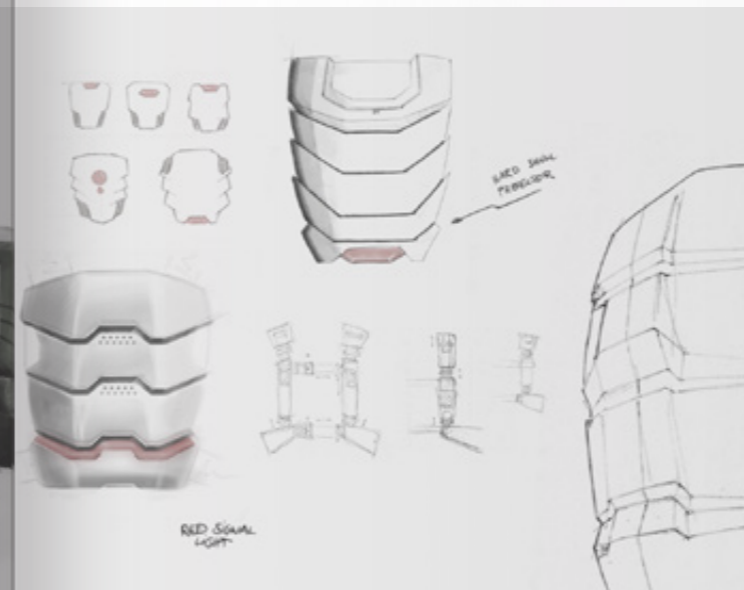
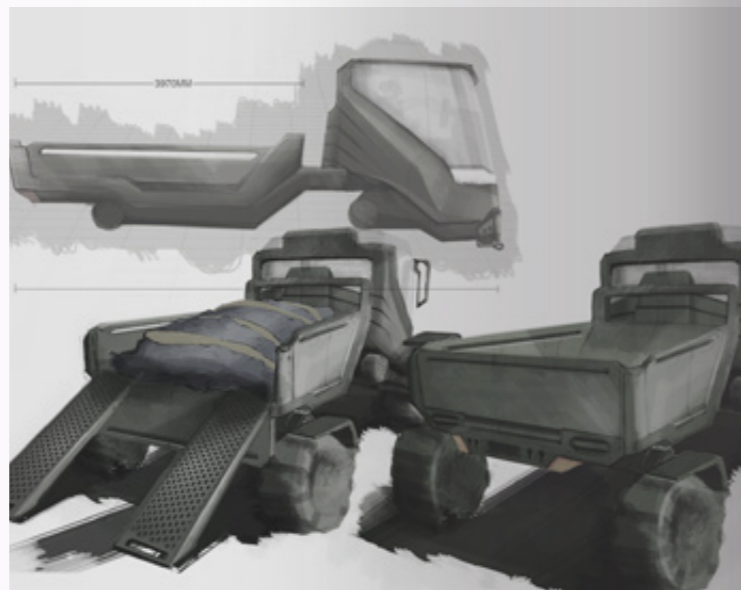
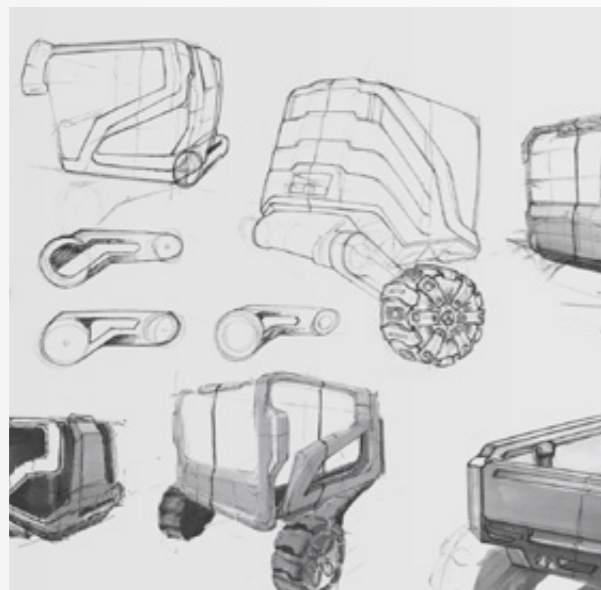


Variant TRAGWERK is a high class constructional orientated design celebrating materials and visually present structure elements connecting the different parts.

Its complex structure can be easily assembled by using just a single screwdriver, where a maximum of parts is identical to reduce the production costs and allow easy replacement.

The whole logical concept is based on the presented structure of different elements developed before and only represents one possible design direction or edition.





6 Transportation Studio A/B

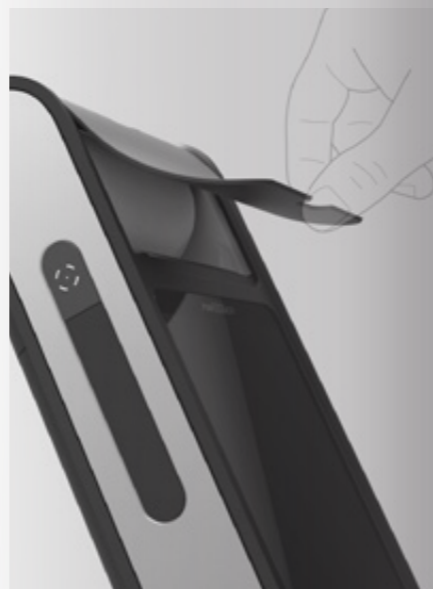
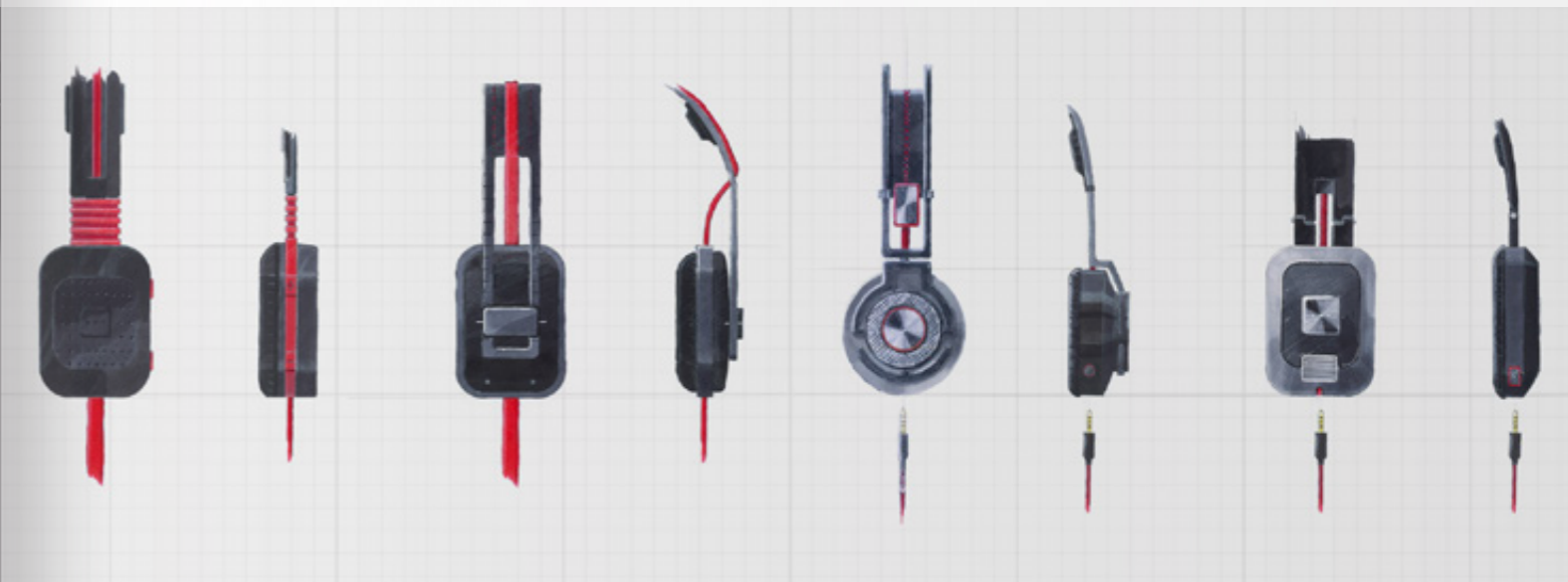
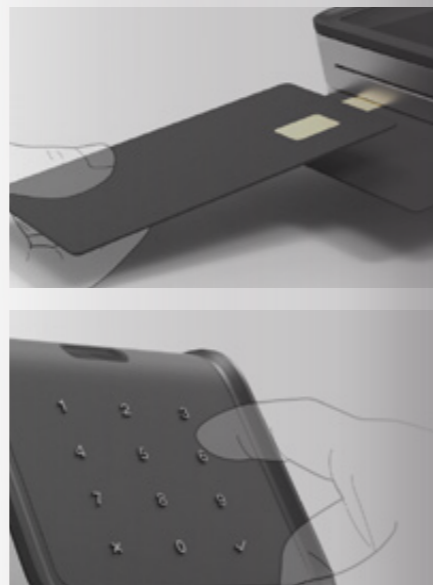
Experimental transportation class during exchange at Shih Chien University Taipei, Taiwan.

During my studies abroad at Shih Chien University in Taipei, Taiwan, I enrolled for a transportation class in order to experiment with more complex forms.

The first task (right) was to reinvent an existing transportation related device in regard of today's technologies and demands. Riding a bicycle by night can be really dangerous, especially in big cities like Taipei. Therefore a product enhancing security through protection and visual presence by lighting is highly useful. The result was a segmented hard-shell backpack featuring three different elastomer lighting elements and two switches located on the back-strap.

A second group project (left) performed together with Benedikt Glöß, covered a more complex approach to vehicles. Most future orientated transportation projects focus on public/personal transportation, where commercial vehicles are often left out of account.

Our conceptualization mainly focused mechanisms for adjustable ground clearance using a controlled pendulum axis for stabilization and in-line hub motors. The mounting of external devices, easier loading and especially the securing of the load have been considered as well, using a modular plate in the front and an intelligent trailer hitch in the back.

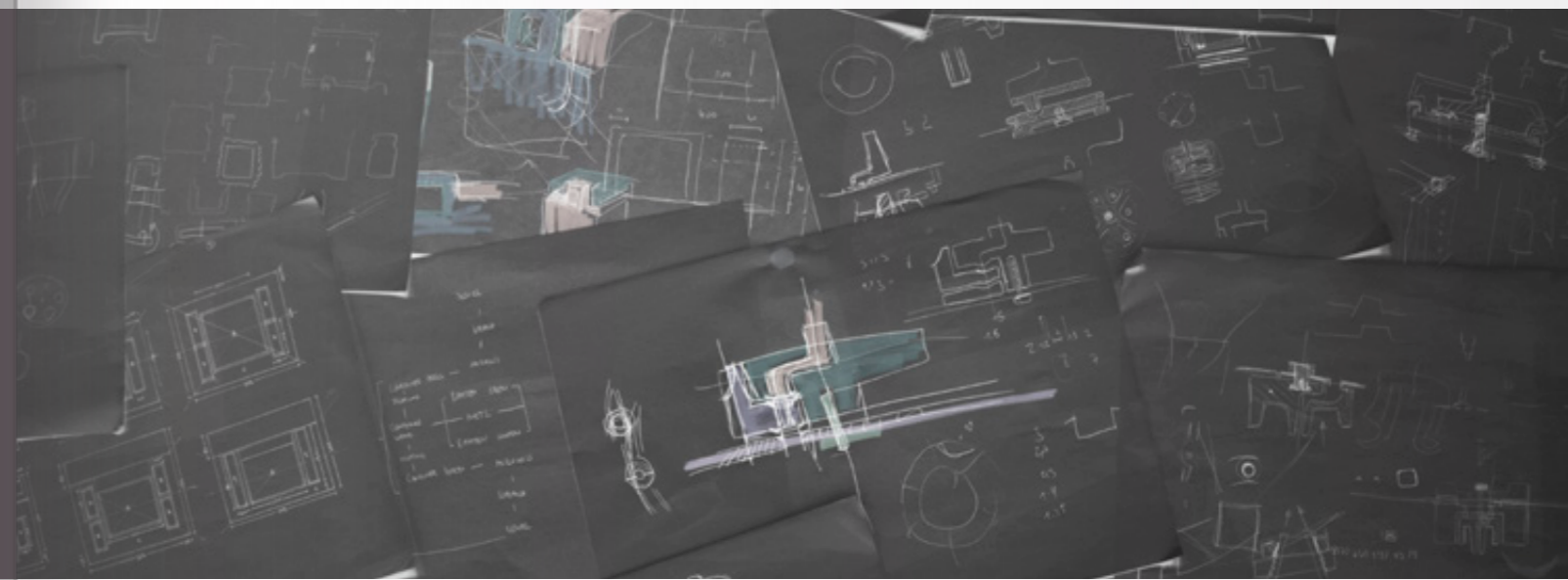
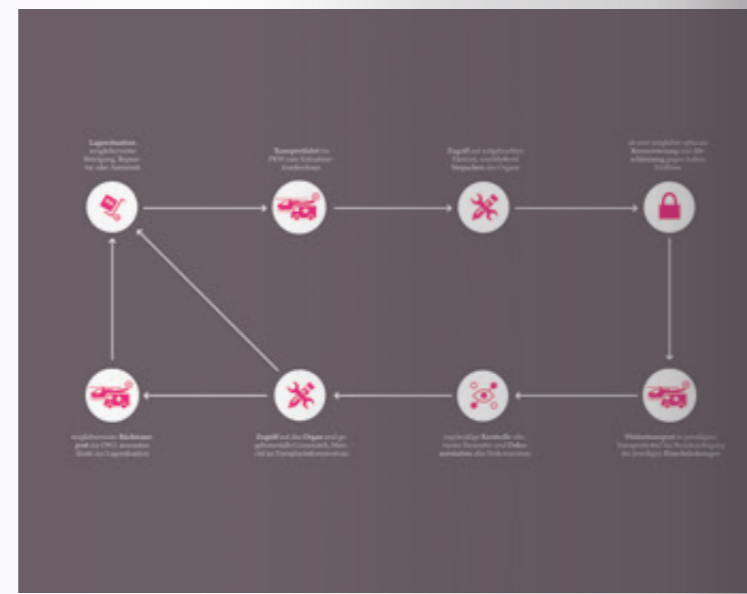
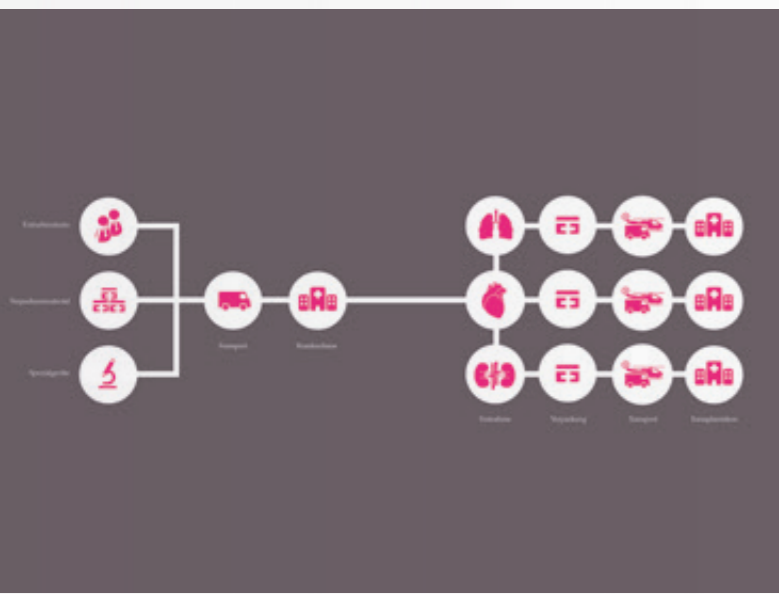


7 Internship at Qisda® / BenQ®

Development of multiple products under “real-world conditions” at Qisda® Corp./BenQ® Taipei.

After my studies at Shih Chien University, I did a four month internship at the BenQ® headquarter in Taipei. With their in-house design agency Qisda®, I worked on multiple projects of which I display the two most interesting ones. A multi-purpose mobile POS device, was my first project to work on. Most of the technical components and housing details have already been defined before, so only small adjustments to the stack-up were possible. It provides credit card slots and NFC fields as well as active client inputs such as pass code or fingerprint. The gyro enabled screen-flipping orientates according to it's angle and enables an intuitive

and seamless “face-to-face” communication between operator and client. The second project (right) was a gaming headset for professional use in tournaments, focusing physically held live competitions in front of large audiences. I created a range of technical/functional orientated design concepts using quality components like an alloy head-strap and leather cushions to ensure lasting comfort, long life time as well as simple usage during the gaming sessions. All movables parts were reduced to a minimum to avoid failures in customization or break down.



After basic medical research on transplantation and its important mechanisms and factors, I analyzed the logistic process of organ transport to get abstract fields of problems and difficulties faced by each entity involved.

This led me to 60+ different functional concepts and ideas to improve the transport box concerning e.g. cooling mechanisms, shock protection, fixation of the organ itself and the box as part of a system. From these, I developed three different product proposals of increasing technical complexity and functional extension.

8 Technical Bachelor Thesis

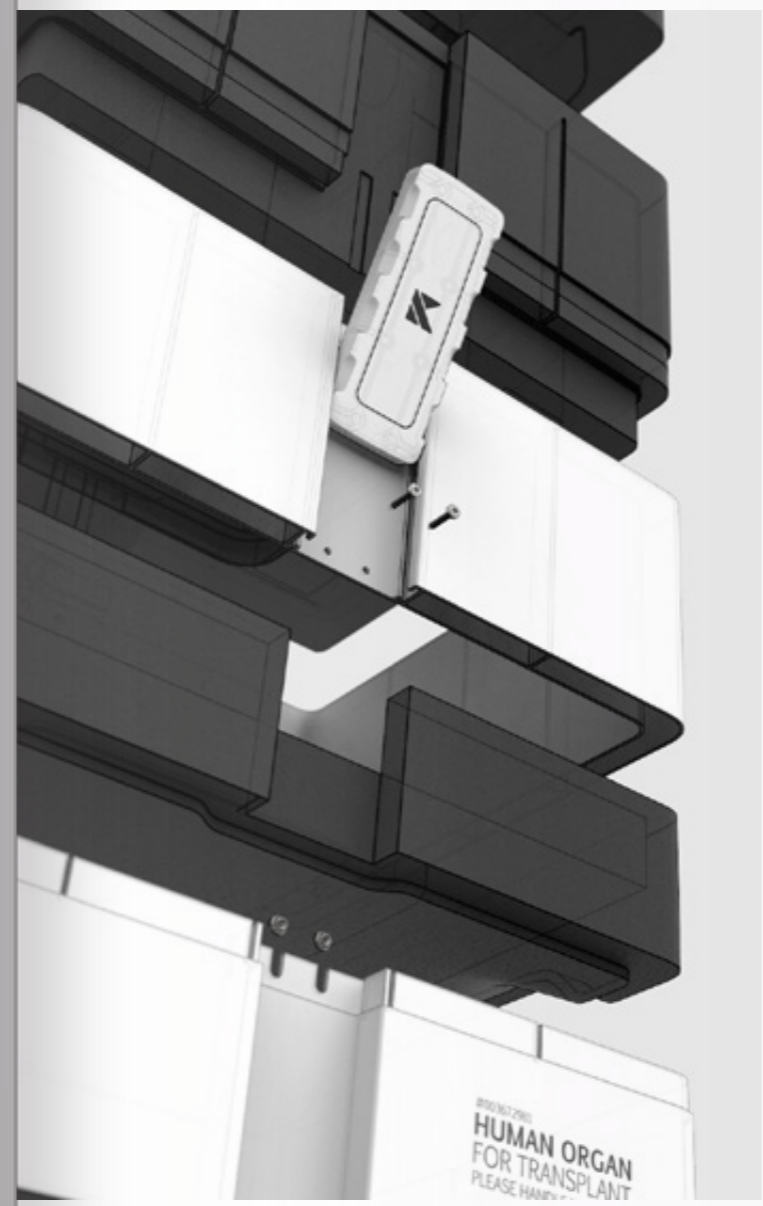
Development of an organ transport system.

For my graduation project, I decided to work in the area of organ transport, as medical design is an interesting sector but complex instruments are not implementable in this short time span and with my knowledge. The documentation for this project consists of a 260+ pages printed book as well as a full-size prototype.

Kontinuum is an organ-transport-system consisting of an ABS-shell, a Neopor®-insulation-layer and a protective stainless steel container. The organ itself is held by two silk nets and can be stored up to 24h under hypothermic conditions (~-4°C). During the transport, it is continuously supplied

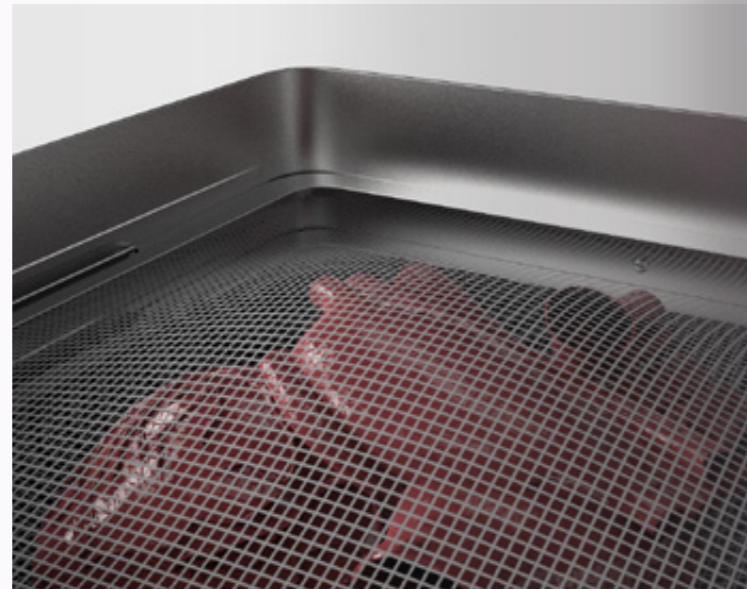
with important nutrients through an adjustable perfusion system. The outer shell provides perfect conditions for manual transport or load securing in cars, ambulances or airplanes. Designed as a modular system, multiple boxes can be attached to each other for easier carrying and storage. Without the insulation, they can also be used to transport additional medical instruments for explantation.

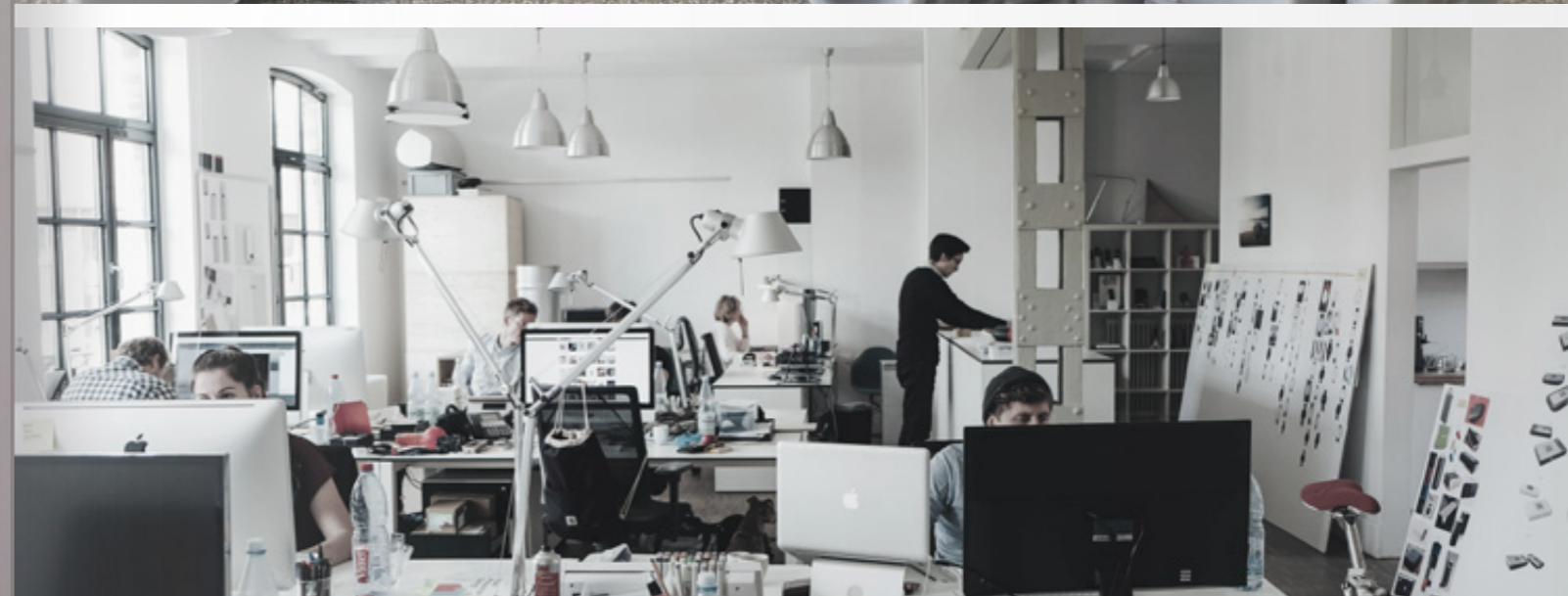
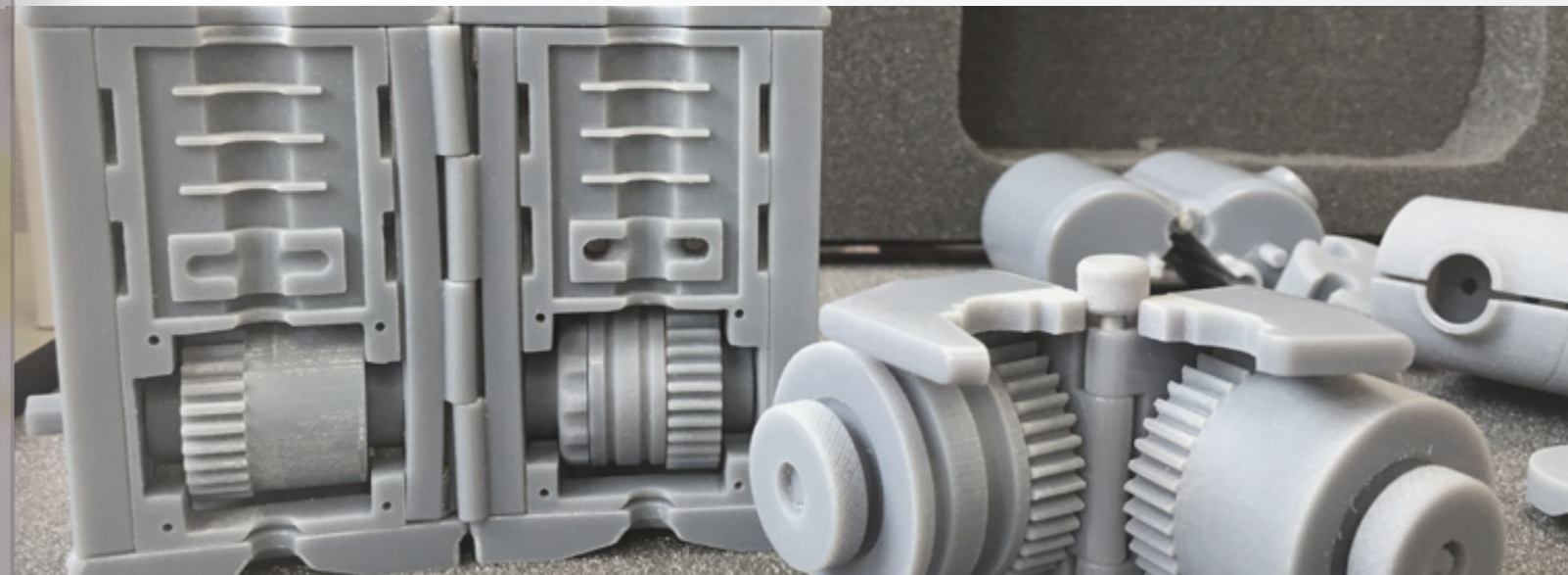
A wireless connection between smart phone and box provides active control of medical parameters as well as an intuitive coordination of the entire transport process logistics through a managed client-server structure.





The design of this project was mainly focused on its different functional and necessary requirements developed as the result of my different research steps. Every component is constructed for cheap production as well as easy assembly and replacement. All mechanisms and functional aspects from insulation to flow-control are based on either research or my own construction and therefore represent components in a close to production ready level of detailing in CAD. Where possible, existing products like cooling elements are implemented.





9 Freelance Work

An overview of my work with Noto

Since April 2016, I have had the opportunity to put the theory of my studies on trial as a full-time freelance designer at Noto. Formerly known as Frackenpohl&Poulheim, Noto looks back on 15 years of experience in the field of design. Starting with product design, the company gradually evolved into adjacent disciplines such as business or service design. The downside of real-life projects is usually the fact, that you can only showcase them to 3rd parties after their initial public launch and even then, not every step you took will be visible after all. Therefore, I can only give a brief look at the main projects I have worked on so far.

First Project

This medical project is part of the “Design for Wellbeing” initiative (www.design-for-wellbeing.org) and focused on the radiology branch of a global player in health.

Extensive research including psychological factors for subjective well-being as well as interviews and various concurrent simulation procedures led to two different holistic concepts, one being closer to the current state of operating technology and one being a more sophisticated solution to show what could be accomplished in the next years.

Second Project

Implementation of optical fiber cables all over Germany is a complex and difficult task. Especially as the execution in the “Fibre To The Home” area, connecting individual buildings with bigger backbones, means a lot of different parties being involved, while many of them lack proper skills.

At present, there is not a single product besides highly complicated technical appliances to fulfill this task. We designed and engineered a product solution for a German cable company that will enable a way bigger group of service providers to do installations when it will be launched early 2017.

Third Project

Relaunching a company’s “cash-cow” is never an easy task, especially if your client wants to sell it on his own, and it is supposed to be re-brandable to suit different local markets and their players.

Allowing only tiny bits of technological adjustments, we delivered two final product families for a Chinese telecommunication giant to be released in 2017. Each family consists of three different units, each tailored for a specific scenario, user-group and desired value class.



Have a good day.
Industrial Design Portfolio

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