



## PORTFOLIO 2016-2017

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# CURRICULUM VITAE

## Education:

12-2016 - Scuola Politecnica di Design (SPD), Milan, Italy  
*Graduated in Transportation and Car Design (Master of Arts)*

08-2015 - Delft University of Technology, Delft, The Netherlands  
*Graduated in Industrial Design Engineering (Bachelor of Science)*

2015 - Coventry University, Coventry, United Kingdom  
*3 months Erasmus exchange program in Automotive Design (Minor)*

**Acquired skills:** *Design Thinking, Hand Sketching, Adobe Photoshop, Adobe Indesign, Adobe Illustrator, Autodesk Alias, Autodesk VRED, Solidworks, 3D Printing, Clay Modelling, Industrial Production, Strategic Design, Interaction Design, Graphic Design, Material science, Mechanics, Verbal- and Visual Presentation.*

## Experience:

2014 ACS Systems B.V. a leading manufacturer in detachable towbar systems  
*Freelance Designer*

## Language:

Dutch	<i>Native proficiency</i>
English	<i>Professional proficiency</i>
German	<i>Limited proficiency</i>

## Interests:

Watching movies  
Travelling  
Automobiles  
Music, playing piano and guitar

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## INTRODUCTION

Audi MO-be is one of my thesis projects and was designed in collaboration with Audi at Scuola Politecnica di Design in Milan, Italy. The Audi MO-be is a team effort where I collaborated with Fernando Pastre. Next to the research we conducted, we extensively went back and forth from sketching to clay-modelling and digital modelling in Alias, to explore the shape of the car.



## CONTEXT AUDI MO-BE

In our world, **cities are growing** larger every year, creating a **shortage of space** for the inhabitants and their mobility. In those crowded environments there is also not much space for nature.

In the future, we envision that if people have free time after sitting all day in the office, they will want to **escape** those crowded cities and **visit nature**. We expect that cars will be banned from city centres and public transportation is thriving. All personal transportation is parked at the edge of the metropolises. In the city, owning a personal vehicle is considered a luxury.

Our task was to create a future vision for a **2030's** Audi vehicle.



WATCH THE VIDEO ON YOUTUBE

# MO-be ESCAPE THE BUSY CITIES



PASSIVE



ACTIVE



CONCEPT

We designed the Audi MO-be as the **ultimate solution** to escape the concrete jungle to enjoy all nature has to give. Next to nature's stunning sights which you can **enjoy passively**, nature offers a lot of opportunities to **enjoy actively**.

The **autonomous driving mode** allows the user to enjoy looking at the scenery without distraction. From wakeboarding to mountain biking, from ski and snowboarding to paragliding, Audi MO-be's **unconventional two seater** layout provides the user to bring all his gear and give him **maximum flexibility**, while the vehicle keeps a modest **footprint**.

Audi MO-be is designed to look **durable** and though but still **refined**. The design is driven by the keywords: **playful, powerful** and **freedom**.



FREEDOM



PLAYFUL



POWERFUL



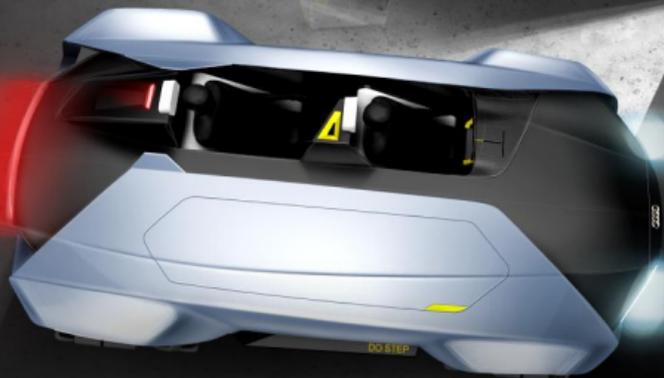
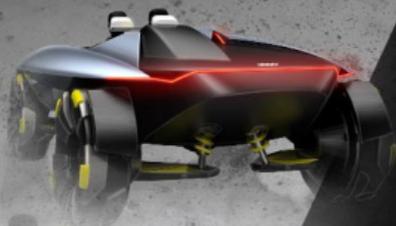


EXTERIOR MOODBOARD

EXTERIOR IDEATION



PHOTOSHOP DEVELOPMENT



MUSCULAR AND SEXY  
WHEELARCHES



MOOBE

TWO-SEATER WITH A LARGE  
LUGGAGE AREA ON THE SIDE



NEW INTERPRETATION OF  
THE SINGLE-FRAME GRILL

**MObe**



**ESCAPE THE CITY**

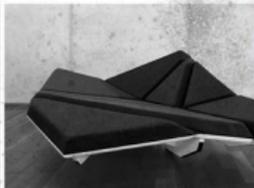




Audi

**MObe**



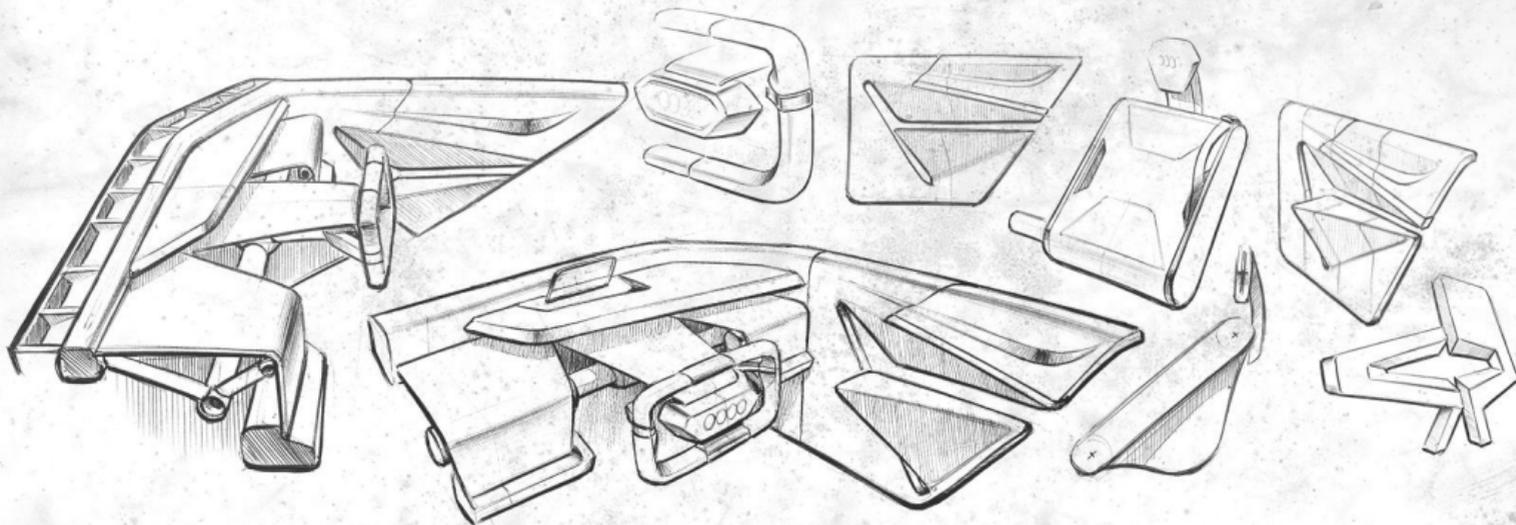


Active Minimalism

Stretchy - Sporty - Contrasts



INTERIOR IDEATION



AUTONOMOUS MODE

MULTI-ZONE FLEXIBLE FABRIC SUPPORTS THE USER



HYDROPHOBIC FABRIC REPELS WATER

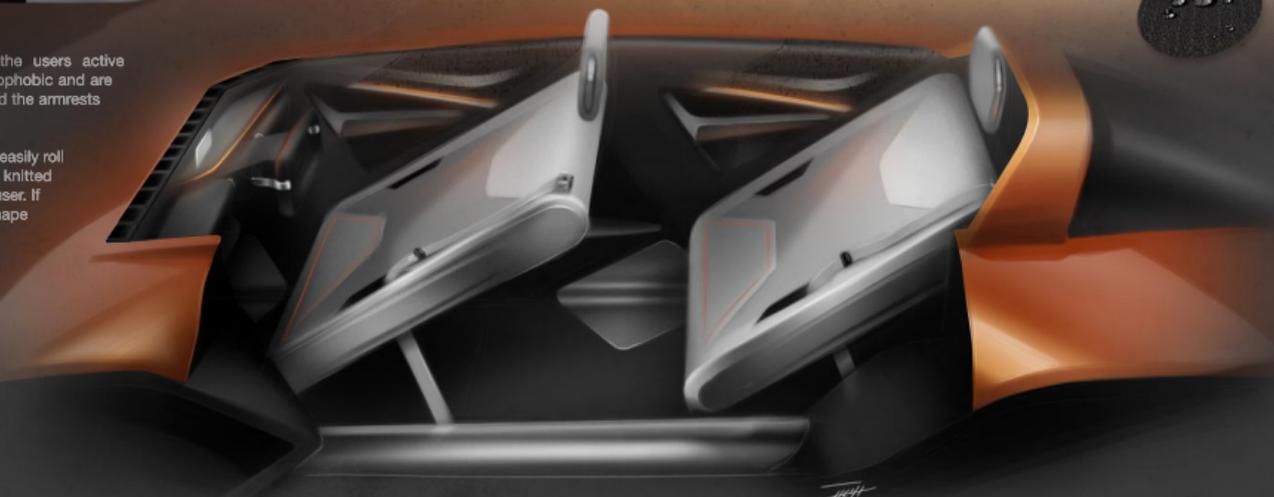


The interior is designed to support the users active lifestyle. All fabrics in the interior are hydrophobic and are therefore weather proof. If the car is not used the armrests in the side panel will close.

The seats are placed under an angle so water can easily roll off the surface. The seats are made of a multi-zone knitted flexible fabric allowing support where needed for the user. If the user is sitting in the chair the fabric will shape ergonomically to the users body.

The steeringwheel is visually attached to the dashboard with flexible fabric. If the car is not in use or driving autonomously, the steeringwheel is part of the dashboard. When actively driving the MO-be, the steeringwheel will widen and move forward out of the dashboard, towards the user stretching the fabric.

Audi MO-be has one graphical interface, providing only the necessary information, like speed and destination. It is completely voice controlled, asking no further physical interaction, apart from driving manually.



Handwritten signature or mark.



CORK PANEL

SPANNED FABRIC

FOLDING ARMREST

HANDLE



HYDROPHOBIC FABRIC

SUSPENDED FLEX-TECH SEAT

STORAGE COMPARTMENT

The Audi MO-be features a large luggage compartment stretching all the way from the front to the rear of the vehicle. The luggage area contains among other things metal strips in the floor where you can attach a net to hold the luggage and an easily accessible first aid kit.

The luggage compartment can be closed with a soft- or a hard-top lid. The soft-top provides extra flexibility making it possible to bring even larger equipment, for example a bicycle.

HARD SHELL LID

SOFT SHELL LID



EASY ACCESSIBLE LUGGAGE AREA



LASER LIGHTING

**MObe**



MAG-LEV SUSPENSION



AIR-BUMP WINDSCREEN



IN-HUB ELECTRIC MOTOR

REPLACEABLE TIRE TREAD

The suspension of the Audi MO-be is a cooperation between the Mag-lev frame and the airless tires. The stiffness of the tire can be controlled by 5 hydraulic rods in every wheel and can also create energy for the in-hub electric motor on a bumpy road. The body of the car is levitated above the Mag-lev frame by the use of magnets. The frame is attached to the body of the car with a strong but flexible material that is able to damp any oscillation while driving.

The airless tire can never run flat. All wheels contain an in-hub motor making the Audi MO-be a real 4x4 Quattro. The tire tread patches can be replaced individually making the wheels on the Audi MO-be as tough and environmental friendly as possible.

The interior is easily accessible due to the large tilting door. The front chair can slide back to make entering the car more convenient.



SLIDING SEAT

TILTING DOOR

CONVERT YOUR MO-BE INTO A 4-SEATER BY ADDING TWO OPTIONAL SEATS



MOBE

## CLAYMODELLING





Audi

**MObe** FREE  
ACTIVE  
STRONG  
ADVENTUROUS  
PLAYFUL  
...  
ALIVE



# DUCATI ZERO

## INTRODUCTION

The Ducati Zero is one of my Master thesis projects developed in collaboration with Ducati S.P.A. at Scuola Politecnica di Design. The Ducati Zero was developed alongside the Audi MO-be project. In this project I worked together with Fernando Pastre. We worked extensively on sketching, sketchrendering in Photoshop and Alias modelling and Vred rendering during this project.



## BRIEF

The task was to develop an electric Ducati for the year 2020. An electric motorbike has a drivetrain with less components than a conventional gasoline powered bike. A lot of elements such as the gasoline motor, exhausts and gearbox, are dismissed on an electric bike. Those elements contribute, apart from their function, also in the styling of the motorbike. Our aim was to develop a new form language that both respects Ducati's DNA and core values and the new electric drivetrain.

WATCH THE VIDEO ON YOUTUBE



# ZERO



The Ducati Zero is a small, light, full electric superbike. It is positioned below the Ducati 959 Panigale. Because of its small footprint and low weight the Ducati Zero fits in an urban environment. Also outside the city the Ducati Zero is in its element. The Ducati Zero has multiple driving modes, Eco, Strada and Corsa, giving the user the feeling he owns three different bikes.

Taking into account the design of the contemporary combustion powered Ducati motorbikes, we explored a new design direction, focused on the possibilities created by the components of the electric drivetrain. The result is a more minimalistic and **fluent** approach, with a contrastful two-toned body dividing the sculptural- from the **technical** parts. The design of the motorbike is inspired by the attack of a snake resulting into an **intimidating** and forward moving stance.

STYLING MOODBOARD



SKETCH SALAD

# DUCATI ZERO DEVELOPMENT

COVERED STEERING BASE



SUSPENDED SEAT



TWO-TONE BODY



PROJECTED HUD

STEERING VERIFICATION

25°



MINIMALISTIC SIDE



MULTILINK SUSPENSION



BATTERY COOLING VENTS





"THE SHAPE OF THE DUCATI ZERO IS  
INSPIRED BY THE ATTACK OF A SNAKE,  
GIVING THE BIKE A FORWARD MOVING  
AGGRESSIVE STANCE."

# DUCATI ZERO



FINAL DESIGN

# DUCATI ZERO



FINAL DESIGN

# DUCATI Zero

## DRIVING MODES



FULL LED ARRAY LIGHTING



SUSPENDED SEAT

AIR COOLED BATTERIES



DRIVING MODES INDICATOR

ECO STRADA CORSA  
Zero Zero Zero

## TECHNICAL DETAILS

FLYING MULTILINK SUSPENSION

LIGHT AERODYNAMIC REAR

AIR DEFLECTOR

TRANSPARENT MOTOR COVER WITH BATTERY INDICATOR

DUCATI

DEL D'AMADOR

WIRELESS CHARGING

DUCATI  
ZERO

TECHNICAL DETAILS

**DUCATI**  
**Zero**





Electric Motorcycles.news, March 2017

Auto&Design magazine 222, Towards an electric future, page 67, Jan 2017

"Ducati Veleno concept" by Bart Heijt, Fernando Pastre  
 Totally electric superbike with sculpted volumes and pure minimalist design. The front facing forward is inspired by the head of a snake, while the transparent part of the body, in correspondence with the engine, allows us to see its functioning. The contrast between the body and the technical parts is pointed up by the two-tone solution.

Superbike totalmente elettrica dai volumi scultorei e dal design puro e minimalista. Il frontale proteso in avanti si ispira alla testa di un serpente mentre la parte trasparente del corpo, in corrispondenza del motore, ci permette di vedere il funzionamento. Il contrasto tra la scocca e le parti tecniche è enfatizzato dalla soluzione bicolor.



NACHRICHTEN

Ein Teamwork-Produkt mit dem Segen von Ducati - ob's die Italiener je nutzen werden?



Wo Ducati draufsteht...

... ist nicht unbedingt Ducati drin. So bei der Ducati „Zero“. Der Entwurf eines elektrisch angetriebenen Racebikes stammt von zwei Studenten aus Mailand. Ihre Master-Arbeit wird aber auch von Bologna aus beobachtet.

Wir wären dämlich, wenn wir das Thema Elektromotorräder nicht auf der Agenda hätten. Alle Hersteller haben das.“ So äußerte sich Ducati-Chef Claudio Domenicali im Interview mit MOTORRAD (14/2015). Rund eineinhalb Jahre später ist jetzt der Entwurf Ducati „Zero“ im Internet aufgetaucht. Er stammt allerdings nicht von Ducati direkt, sondern von zwei Studenten. Der Niederländer Bart Heijt und sein brasilianischer Kommilitone Fernando Pastre haben die Ducati Zero als Master-Arbeit ihres

Studiums von „Transportation and Car-Design“ an der polytechnischen Design-Schule von Mailand entworfen. Mit grünem Licht aus Bologna, denn sie dürfen dafür den Herstellernamen Ducati nutzen. Und das Design macht dem großen Namen Ehre. Selbst der äußerlich an sich eher dröge Elektromotor wird geschickt in Szene gesetzt und ist durch ein transparentes Verkleidungsteil sichtbar. Je nach Fahrmodus Eco, Strada oder Corsa (Rennstrecke) wechselt das Zero-Logo die Farbe: Grün, Weiß oder (Ducati-)Rot.

Motorrad Magazine 04, Nachrichten, page 78, Feb 2017



**DUCATI**  
*ZERO*





# PORSCHE 919<sub>1/1</sub>

The Porsche 919<sub>1/1</sub> is a 4 week personal project containing sketch research, modelling in Alias and renders from Vred.

The 919<sub>1/1</sub> is designed as an one-off road legal version of the Porsche 919 LMP Le Mans racecar. Sharing the same layout as the LMP, there is only room for one passenger. While the 919<sub>1/1</sub> is an extreme sportscar it is also a status object. With a fluent two-tone exterior and an interior covered in carbon fiber and leather, it is meant to impress.



SEE THE VIDEO HERE



# 919<sub>1/1</sub> STYLING MOODBOARD



LAYERED/FLUENT/DYNAMIC





DEVELOPMENT  
PORSCHE 919<sub>1/1</sub>

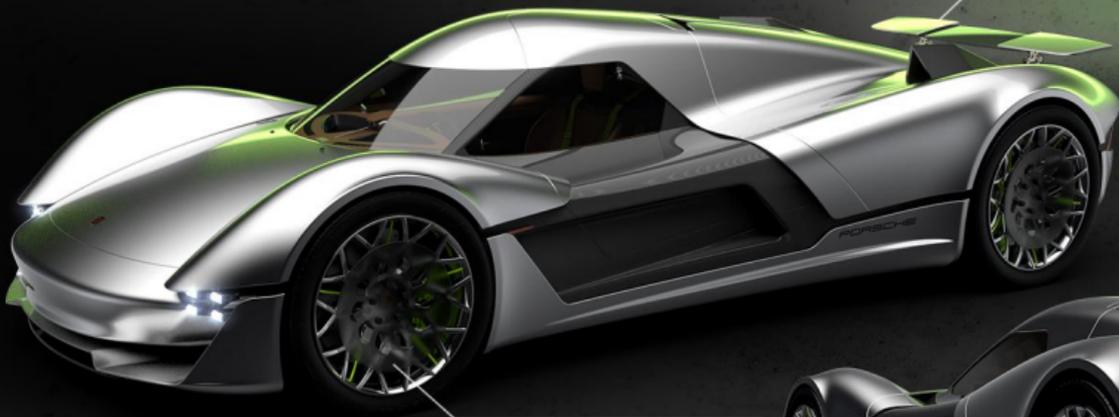
TWO-TONE



SCULPTURAL BODY



ACTIVE SPOILER



AERODYNAMIC COVERED RIMS



LED LIGHTS



PORSCHE 919<sub>1/2</sub>



PORSCHE 919<sub>h</sub>



PORSCHE 919<sub>h</sub>



PORSCHE 919<sub>1/1</sub>

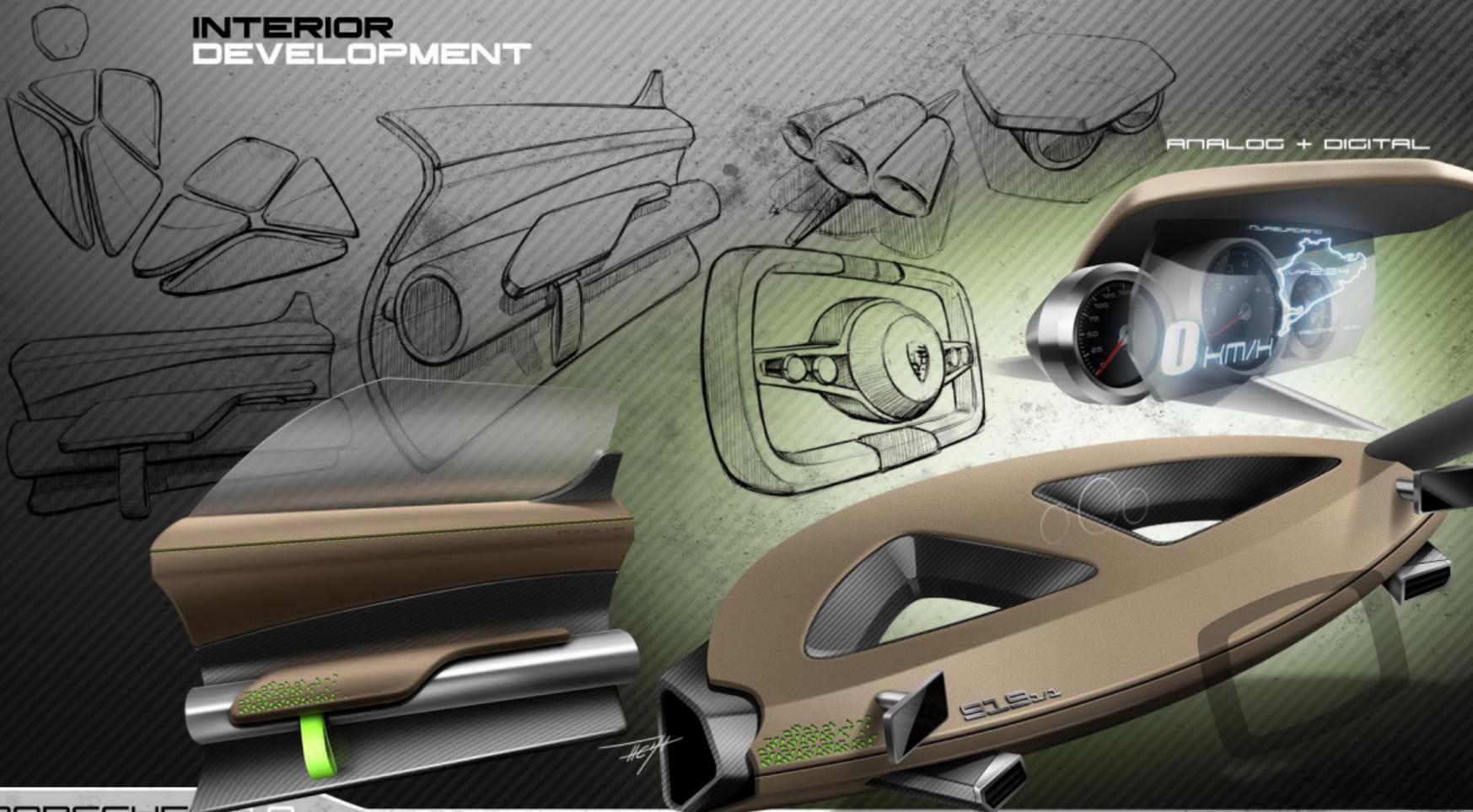




PORSCHE 919<sub>h</sub>

# INTERIOR DEVELOPMENT

ANALOG + DIGITAL

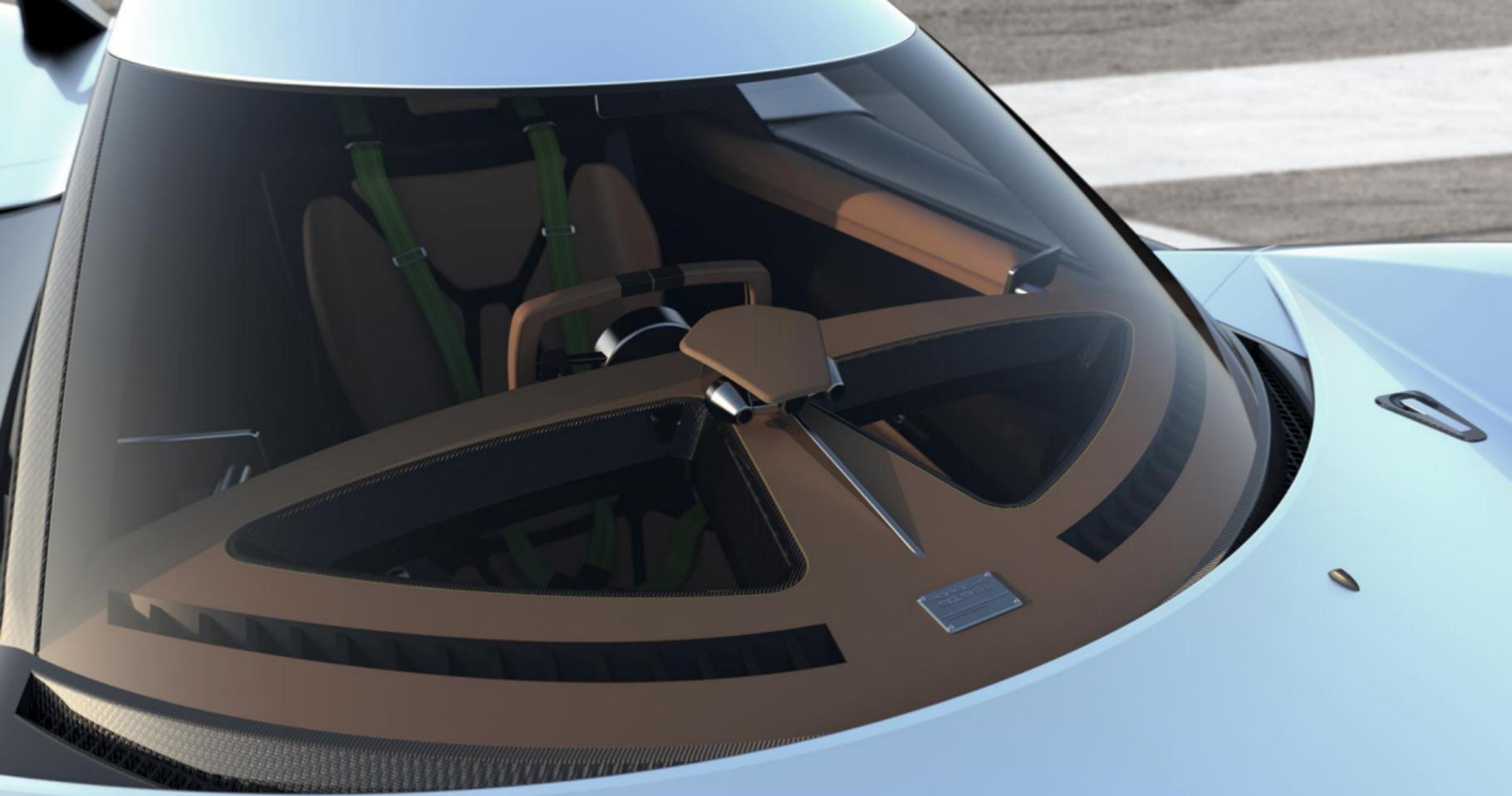






The transparent oled screen complements the analog dials behind it, to show the driver all the information he needs.





PORSCHE 919<sub>h/h</sub>



PORSCHE 919<sub>h</sub>



PORSCHE 919<sub>1/1</sub>



# HARPOON 25M YACHT

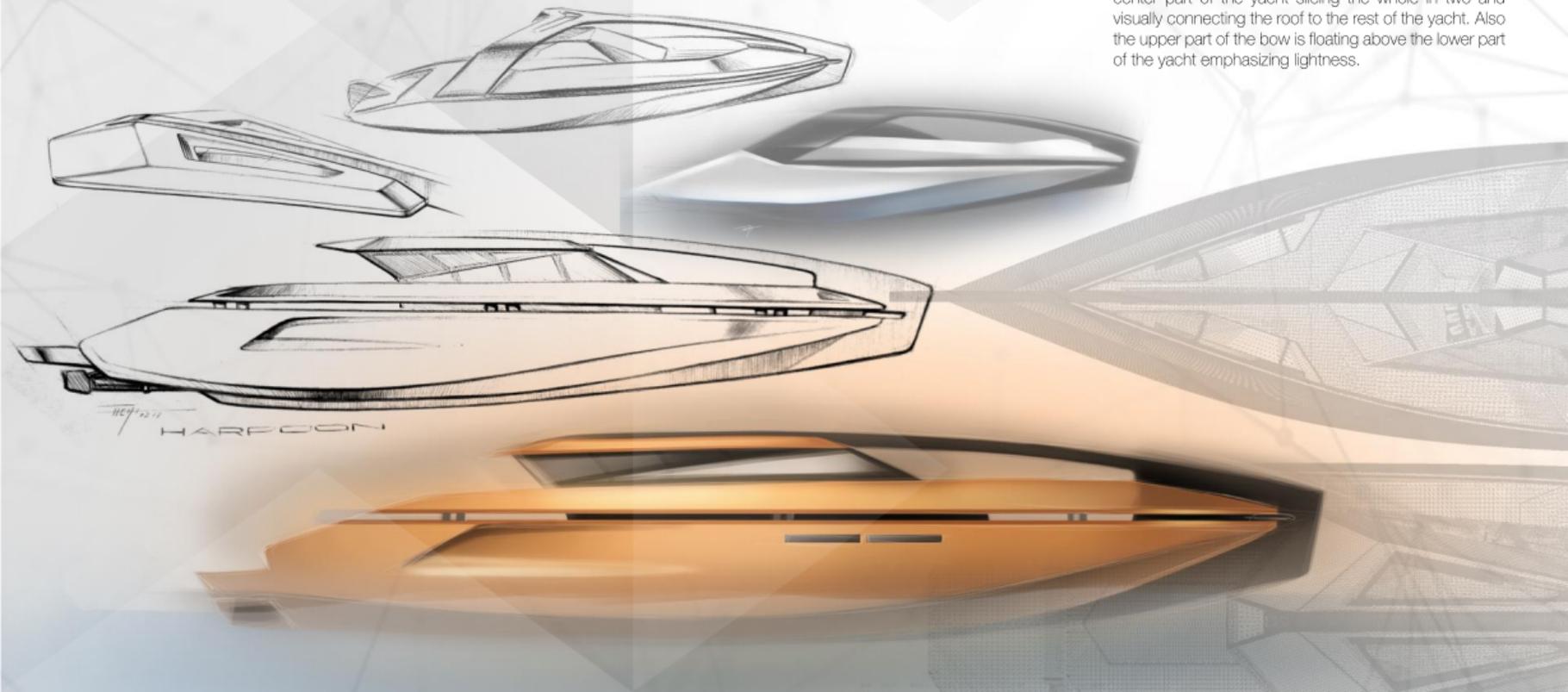
This 3 week personal project consist out of research, manual- and digital sketches and an Alias model rendered in Vred. The HARPOON is a 25 meter long luxury yacht inspired by contrasts between fluent and geometric shapes. I searched to find a minimalistic, interesting and luxury shape. While playing a lot with suspended and floating elements in both interior- and exterior design, the HARPOON keeps its powerfull appearance.

FLUENT  
GEOMETRIC  
LUXURY

BANG & OLUFSEN

## DEVELOPMENT

One of the main features of the exterior is the contrasting center part of the yacht slicing the whole in two and visually connecting the roof to the rest of the yacht. Also the upper part of the bow is floating above the lower part of the yacht emphasizing lightness.



## PHOTOSHOP RENDERS

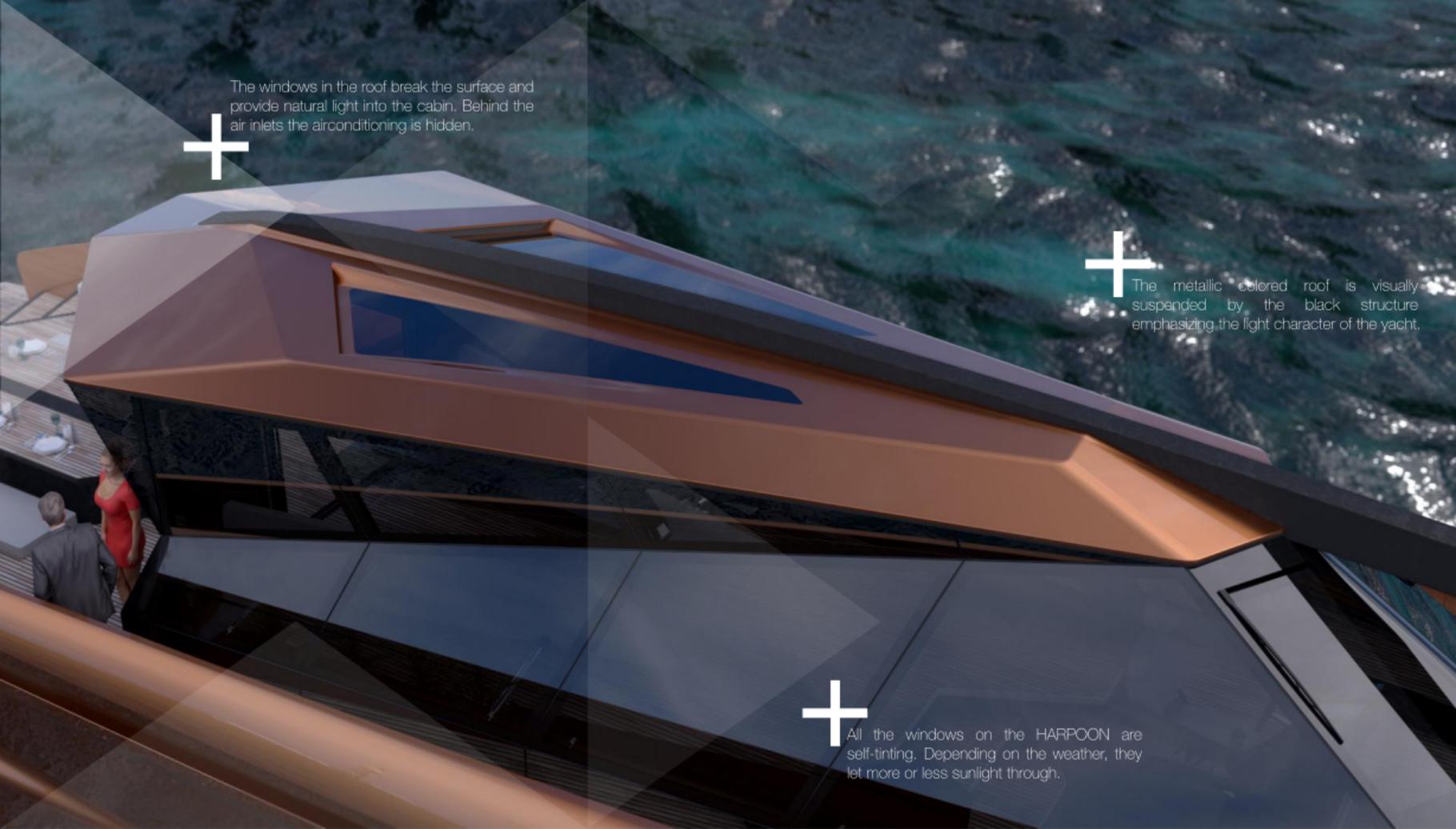
Forged carbon fiber gives strenght and lightness to the structural parts and provides an interesting pattern in the styling of the yacht.

The teak wooden deck is a natural material that is in contrast with the glossy metallic paint.

The deep copper-orange metallic paint has bright golden flakes.



HARPOON



The windows in the roof break the surface and provide natural light into the cabin. Behind the air inlets the airconditioning is hidden.



The metallic colored roof is visually suspended by the black structure emphasizing the light character of the yacht.



All the windows on the HARPOON are self-tinting. Depending on the weather, they let more or less sunlight through.

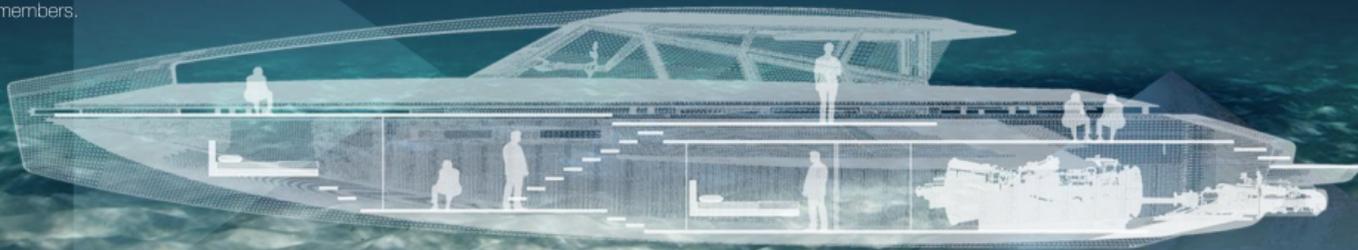


The deep copper-orange colored metallic finish has golden flakes that give a bright gloss effect.



The Harpoon is powered by two large gas turbine engines. Therefore it needs large air intakes on its sides.

The yacht can accommodate six guests and two crew members.



An aerial, high-angle view of a modern luxury yacht at night. The yacht is illuminated from within, showing a wooden deck, a dining table with chairs, and a large arch structure over the cabin. The water is dark with some light reflecting off the surface. Three callout boxes with plus signs point to specific features: the arch structure, the rear deck dining area, and the overall lighting scheme.

The arch structure contains lights to lit the front deck.

On the rear deck a table can be elevated out of the floor to change the sundeck into a dinner space.

The indirect lightning gives the HARPOON a distinctive luxury appearance.

# INTERIOR

The upper interior is floating above the main deck allowing more natural light to get into the lower cabin. All furniture in the main cabin is suspended and can be moved to the needs of the user. The plants provide a natural touch in the interior but also provide better air quality and attenuate background noise. The cockpit of the captain is suspended above the staircase and is stabilized on multiple axis giving the captain a smooth ride even in storm conditions.

SPACIOUS  
LUXURY  
LIGHT



## DEVELOPMENT

I focussed on giving the interior a spacious appearance. The way I accomplished this is to suspend all elements, such as the couch, cabinet and even the cockpit of the captain. Next to that I wanted the interior to be smart. For example, the cockpit of the captain is suspended and stabilized and the dinnertable can be retracted into the ceiling and transforms into a light.





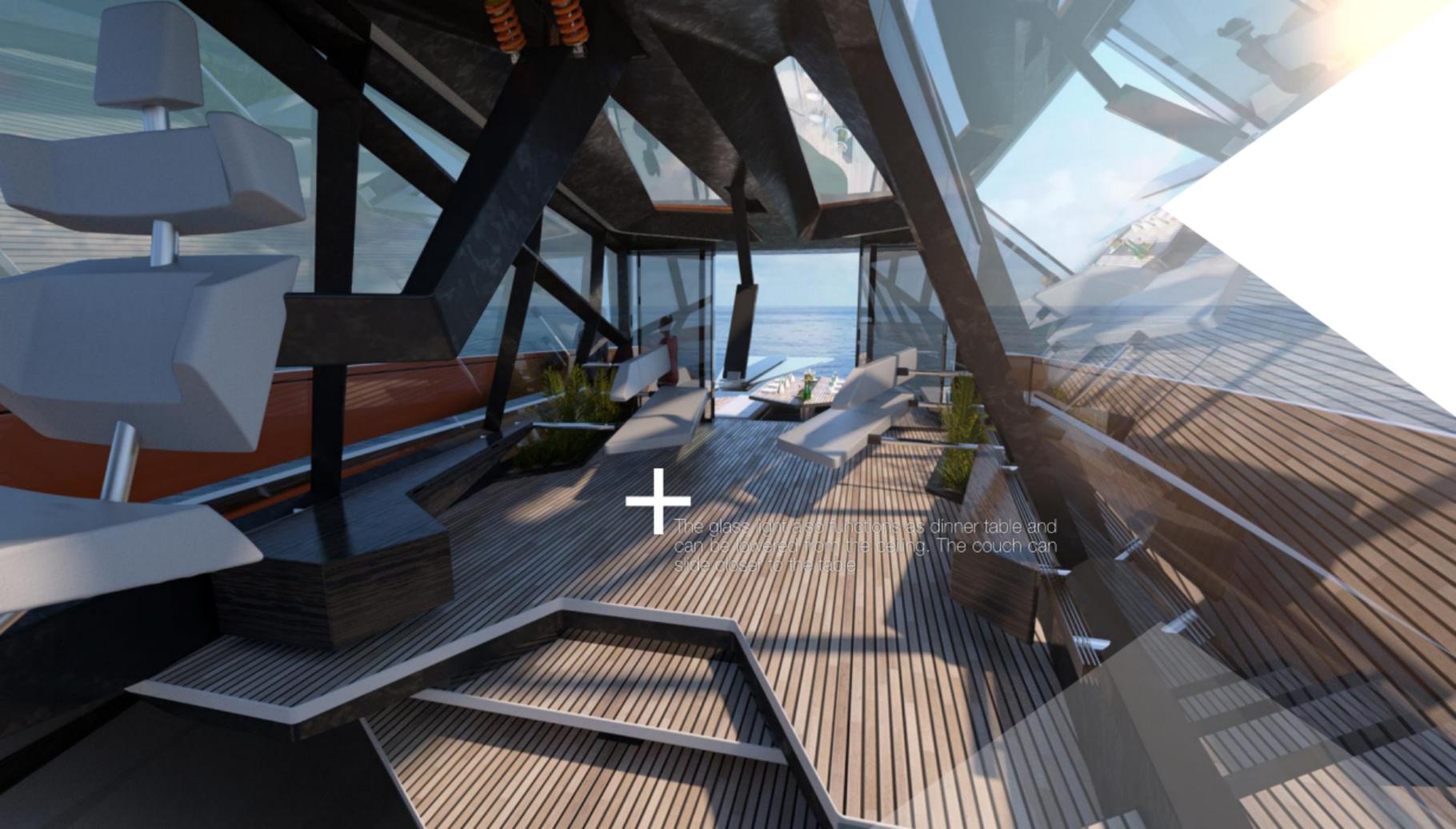
The whole cockpit of the captain is suspended from the ceiling, giving the interior a spacious appearance.



The cockpit is stabilized and will keep the captain leveled.



All elements in the interior such as the couch and cabinets are suspended from the walls.



The glass light also functions as dinner table and can be lowered from the ceiling. The couch can slide closer to the table.





The whole cabin is elevated.



The dinner table can be lowered into the floor, creating a spacious sundeck.

HARPOON  
BOATWORKS



*Lamborghini*

# ECLISSE

The Lamborghini Eclisse is designed in collaboration with the Lamborghini Design studio during my time at Scuola Politecnica di Design in Milan. This project contains research, hand- and digital sketching, Alias modelling and Vred rendering. The Lamborghini is called Eclisse (Eclipse) due to its two sided character. It is a comfortable Gran Tourer, as well as an uncompromising sports car.

Lamborghini



The 2025 Lamborghini Eclisse is a semi-autonomous electric Lamborghini 2+2 Gran Tourer. The Eclisse can easily be used as a daily driver. The electric layout creates room for a larger interior and luggage area.

In urban environments where the traffic density is high, the user can spend his time more conveniently, while the car is driving autonomously. In addition, the Lamborghini Eclisse has a second personality; that of a real sports car. This is experienced when driving the Eclisse manually.

Elegance meets extreme, this is the title of the styling moodboard. While respecting the main values of Lamborghini, extreme, geometric and powerful, I wanted the Eclisse to be sensual and elegant as well. Inspired by classic lines the Lamborghini 350 GTV '63, I designed the Eclisse as a high-tech and versatile Lamborghini of the near future.

URBAN

TOURING

DESTINATION



EXTREME

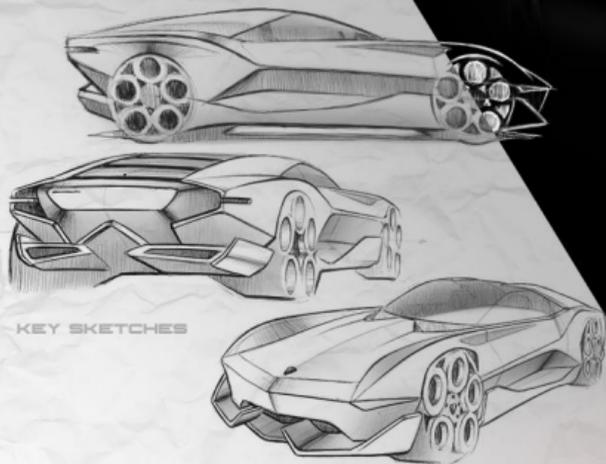
GEOMETRIC

POWERFUL

ELEGANCE MEETS EXTREME

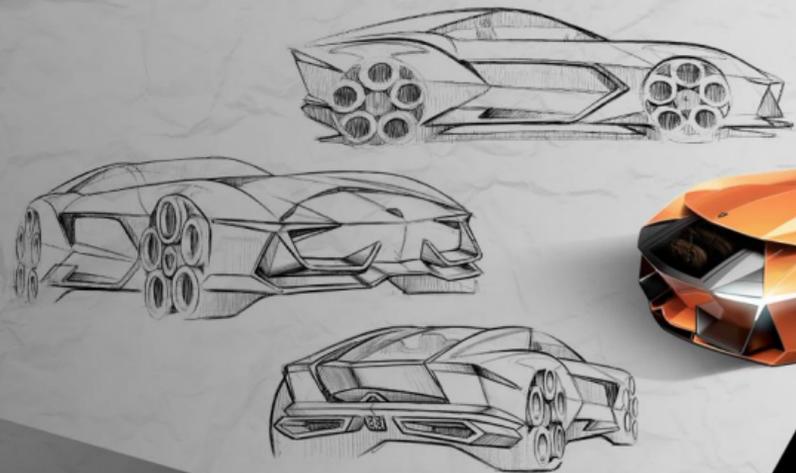
High tech • Contrast • Dynamic • Versatility

Lamborghini  
ECLISSE



DEVELOPMENT

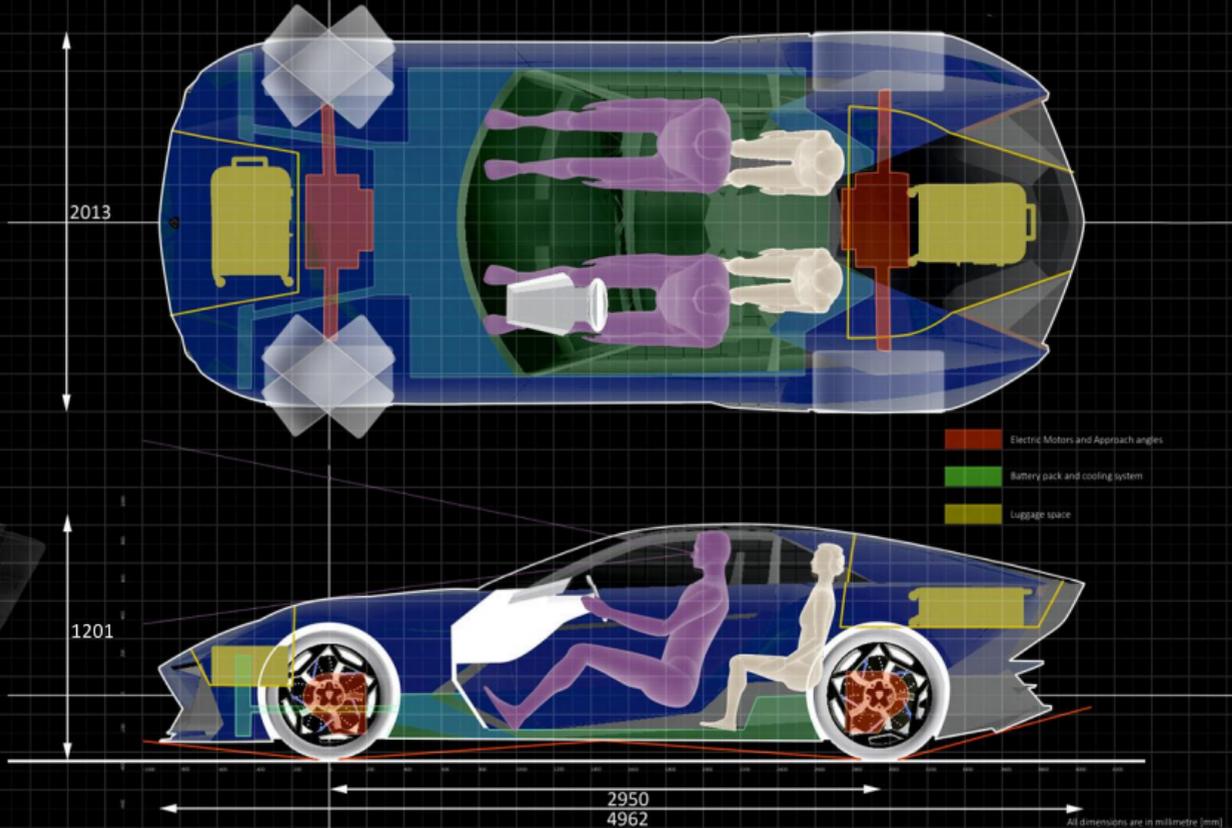
Lamborghini  
**ECLISSE**



**DEVELOPMENT**

Lamborghini  
**ECLISSE**

The Lamborghini Eclisse is a real 2+2 GT sports car. The Eclisse has room for 4 people. If the car is driven only with two persons autonomously, the front chairs can slide all the way back to create a business class experience. Due to the electric layout of the vehicle there is no large petrol engine in the front. This extra space can be used as additional luggage space. Also the rear features a large luggage area making the Eclisse a convenient car for everyday use. The batterypack is located in the floor between the wheels, so the center of gravity of the Eclisse is low and the weight distribution is optimal. The Eclisse has two electric motors providing four wheel drive performance.

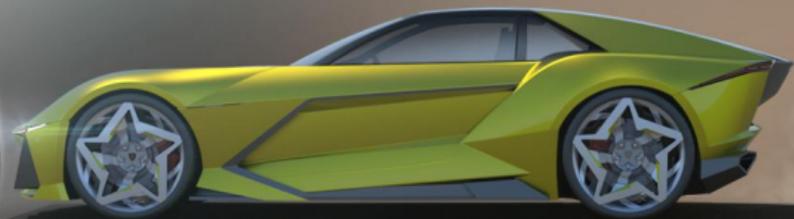


*Lamborghini*  
**ECLISSE**



**FINAL DESIGN PROPOSAL**

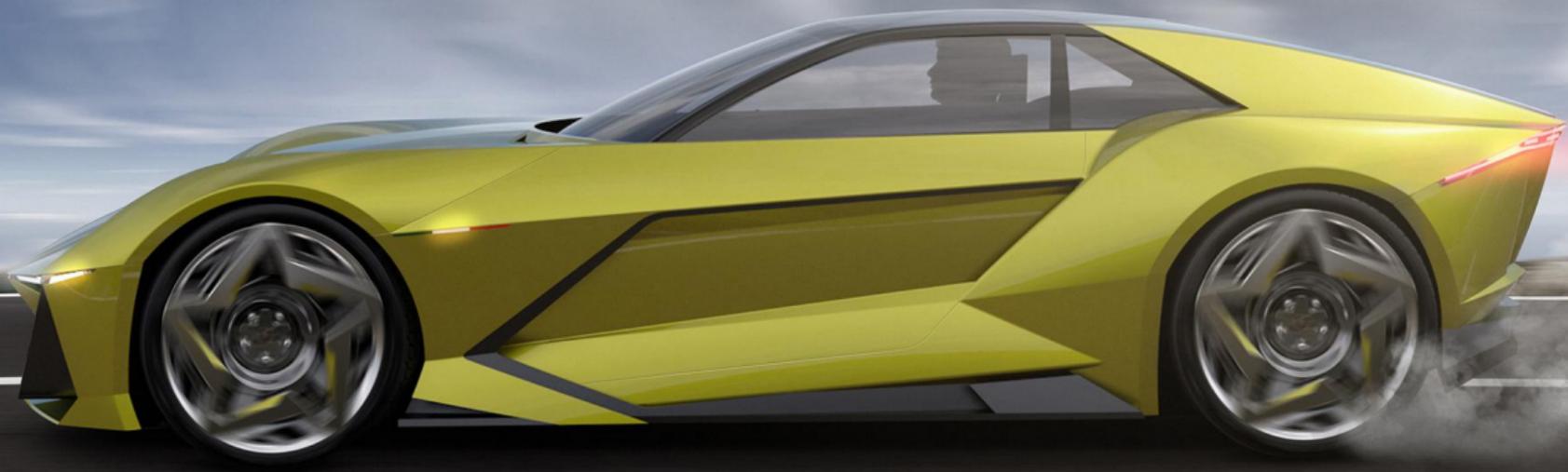
Lamborghini  
ECLISSE



Lamborghini  
ECLISSE



*Lamborghini*  
ECLISSE



Lamborghini  
ECLIPSE



Lamborghini  
ECLISSE





# THANK YOU FOR YOUR TIME!

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*HEIJT*