

CONSUE
RACING



THE FUTURE OF RACING

2024



INTRODUCTION

This is the year of 2040 where autonomy is within our everyday vehicles and the advancement of technology has improved safety, performance and efficiency within in our lives. The use of artificial intelligence has been utilised to create a manual vs digital experience. The year 2040 is all about learning and working with technology to achieve the most efficient results. The inspiration for my vehicle was derived from driving icons, nature and artist's philosophy's taken from Andy Goldsworthy and Louise Bourgeois. With autonomy restricting speeds on public roads, the craving for a high speed racing championship have never been more prominent. Combining the most talented highly skilled drivers and the most advanced technology yet. A racing expertencehays been developed where teams tactics are key increasing the level of excitement to the spectators. Combining artificial intelligence and human interaction. I introduce to you Consuo Racing!

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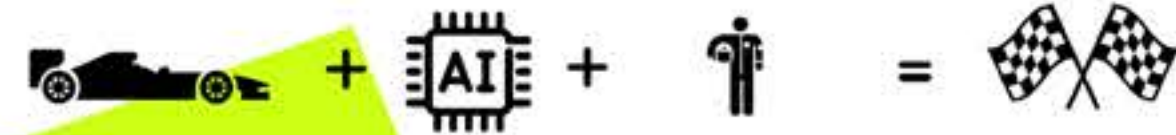
PROJECT BRIEF

To develop a car for the future of racing for the year 2040. The vehicle and racing scenario must take into consideration the development of future technology, autonomy and carbon free emissions. The vehicle must be off an appropriate size for a single driver, and capable of a high speeds.

The vehicle will be capable of the following scenarios,

SCENARIO 1

The combination of the vehicles artificial intelligence and the drivers capabilities allow the driver to learn when to brake and perfect driving paths in a racing scenario.



SCENARIO 2

Vehicles laptimes vs drivers laptimes can improve drivers accuracy and improve the vehicles intellegence.



What is Consuo Racing?

Consuo comes from the latin definition "to sew together" or to "Join together". It's the first race series where man and machine communicate and work together to achieve the most efficient and dynamic race series yet! With the development of autonomy, automotive enthusiasts were historically concerned that the level of engagement and the level of excitement that will be lost in the future. With this in mind the vision of technology to improve safety and use it to the advantage of the driver, improves accuracy and drivers ability to react. The vehicle provides the driver, with accurate driving paths and braking distances aiding tultion to the driver. This was based on the drivers reaction times. Similar technology can be found currently in games and driving simulators. The technology and the brain within the Consuo vehicle that is able to remember the previous lap and replicate it.

With the onboard artificial intelligence able to match and replicate the drivers lap times the race will consist of a 50% of the race driven by the driver 50% driven by the Vehicle. the race will consist of a 50 lap race similar to F1. This means the driver will only driver 25 laps and the vehicles artificial intelligence will drive the rest. Teams must be tactical in order to win the race. The vehicle will only be able to replicate a lap times set by the driver. The vehicles artificial intelligence will help the driver improve throughout the race. The racing vision will combine technology found in games including Gran Turismo



Faster racing times

Provides a connection of interllegence between man and machien

Provides improves smart safety

On board Cameras allow a closer viewing angle on their favourite teams

Accurate braking distances

improved accuracy



Track Rules



The aim of the race is to use the Artificial Intelligence (AI) technology to aid tuition throughout the race and to use it to your advantage. Teams have to tactically use their **“PRE LAPS”** and **“SET LAPS”** wisely in order to have a chance of winning the race.

The vehicles digital display is able to provide the driver with accurate braking distances based on the drivers processing speeds on every corner. The team must tactically use the set laps to their advantage and use pre laps wisely in order to win the race. The AI technology system is able to detect objects and prevent crashes where necessary in order to increase safety and In order to reduce wasted materials and parts.

The vehicles advanced AI technology in this race is used to the advantage of the driver and provides a new and engaging manual vs digital experience. The new race series consists of 50% autonomy and 50% manual driving. The vehicle is able to replicate the drivers laps and save them onto an onboard computer system where the driver is able to use its top lap time throughout the race where the on-board computer system is in control. The race consists of “set laps” these are laps set by the driver and driven by AI and “pre laps” these are laps driven by the driver. The race consists of 50 laps of which 25 are set laps and 25 are pre laps.

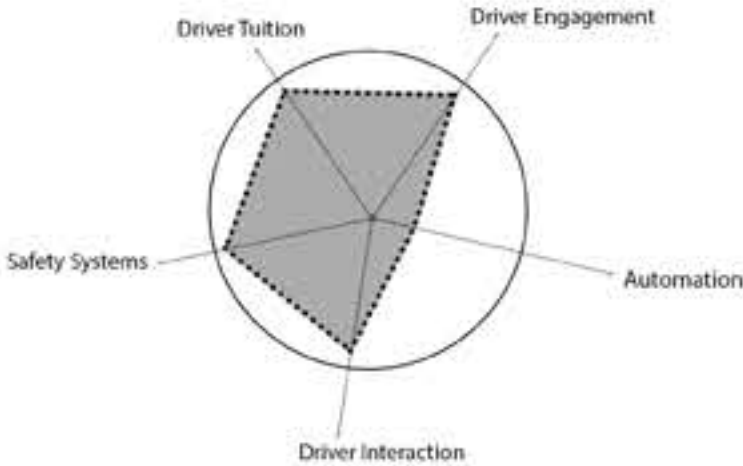


PRE LAPS

- Driven by the driver
- Trying to improve lap times
- Vehicle assists in tuition to the driver
- 25 laps

Key Information

This part of the race is all about what the driver can achieve with the tuition of AI technology and heads up display. Automation is minimal however full safety features are engaged should the driver require them. Driver engagement and interaction is highest in this part of the race. The faster the driver can set the lap for the Set lap the better!



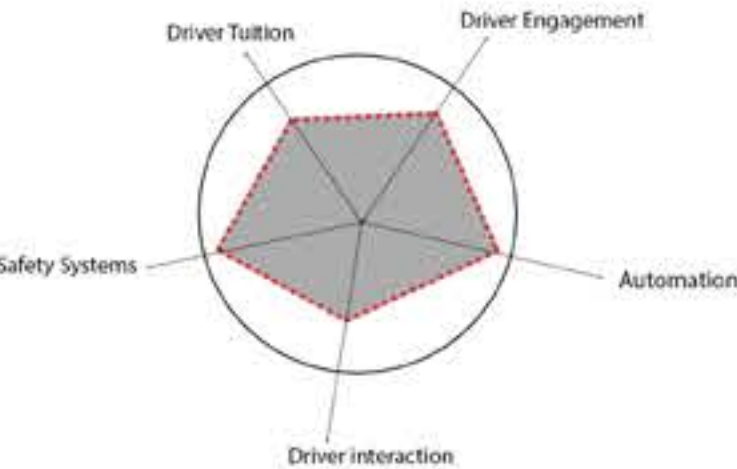
SET LAPS



- Full autonomous control
- Drives at the speed of best pre lap
- Vehicles in complete control however provides lap analysis.
- 25 laps

Key Information

This is the most tactical part of the race where the team and driver must use these set laps wisely where their level of control around the track is under full automation and will only be track time will be determined by the quickest set laps. This is an opportunity for the driver to analysis potential mistakes and improve tatics.



Consue Racing introduces automation as a positive. It aids our learning and our ability to improve efficiency and provide a connection and engaging experience where technology. It can help improve safety and our intelligence. Team Tactics may vary, involving and improving the level of engagement in the race where the drivers ability is out of control. using the pre set laps or even set laps could impact on the race.

Summary

CONSUE
RACING



FOR THE YEAR
2040

Focus of Design



Driver



CONSUE PROFESSIONAL RACER

Name : Ronnie Ray Carter
Age : 25
Height : 174cm
Weight : 70kg
Build : Athletic

Focus of Design



Vehicle



Aerodynamic



High Speed:



Lightweight



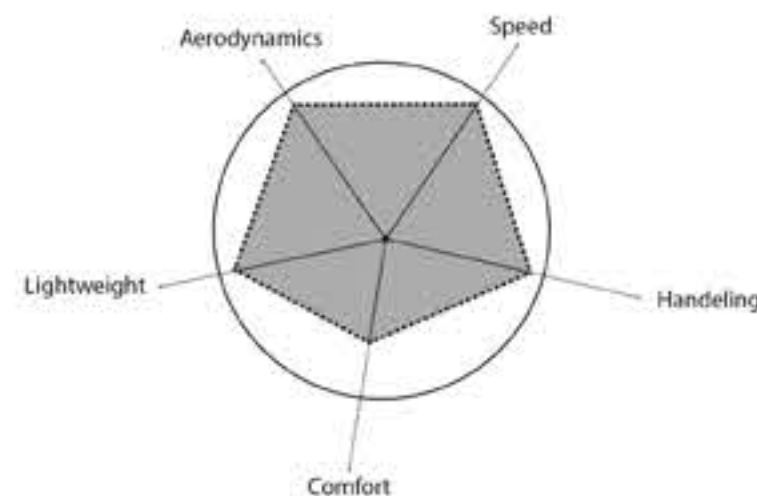
Seats: 1-2 people



Track use only



Artificial Intelligence



Design Aspiration

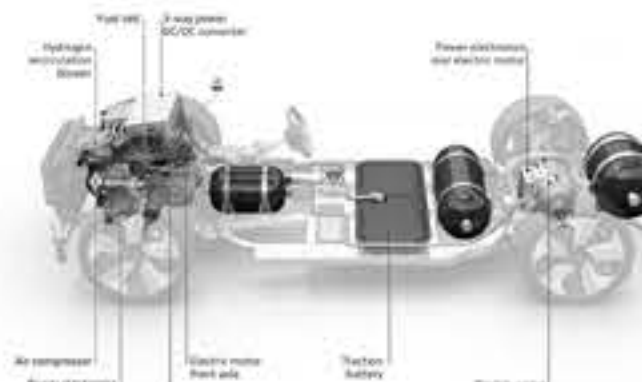
Focus of Design



Fuel Source



Hydrogen powertrain



Focus of Design



Environment



Textured road surface



Race tracks are made from concrete, asphalt and various other materials including limestone. There is not just one layer like on a regular roads. More often than not, there's 4 or more layers laid onto the ground surface at a very specific temperature. This to reduce the sheer force vs static load. The race track will encounter tremendous lateral sheer force from forward moving energy given off by high speed vehicles.

With the advancement in technology over the next 20 years tracks surfaces will improve becoming a lot more level and improve grip in all conditions and reducing surface water.

Focus of Design



Target Audience

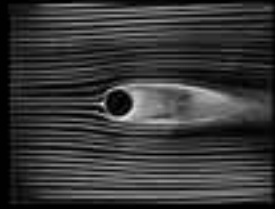


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You Tube/Real Estate
Car Enthusiast
Motorsport Fan
Exotic
Wealthy

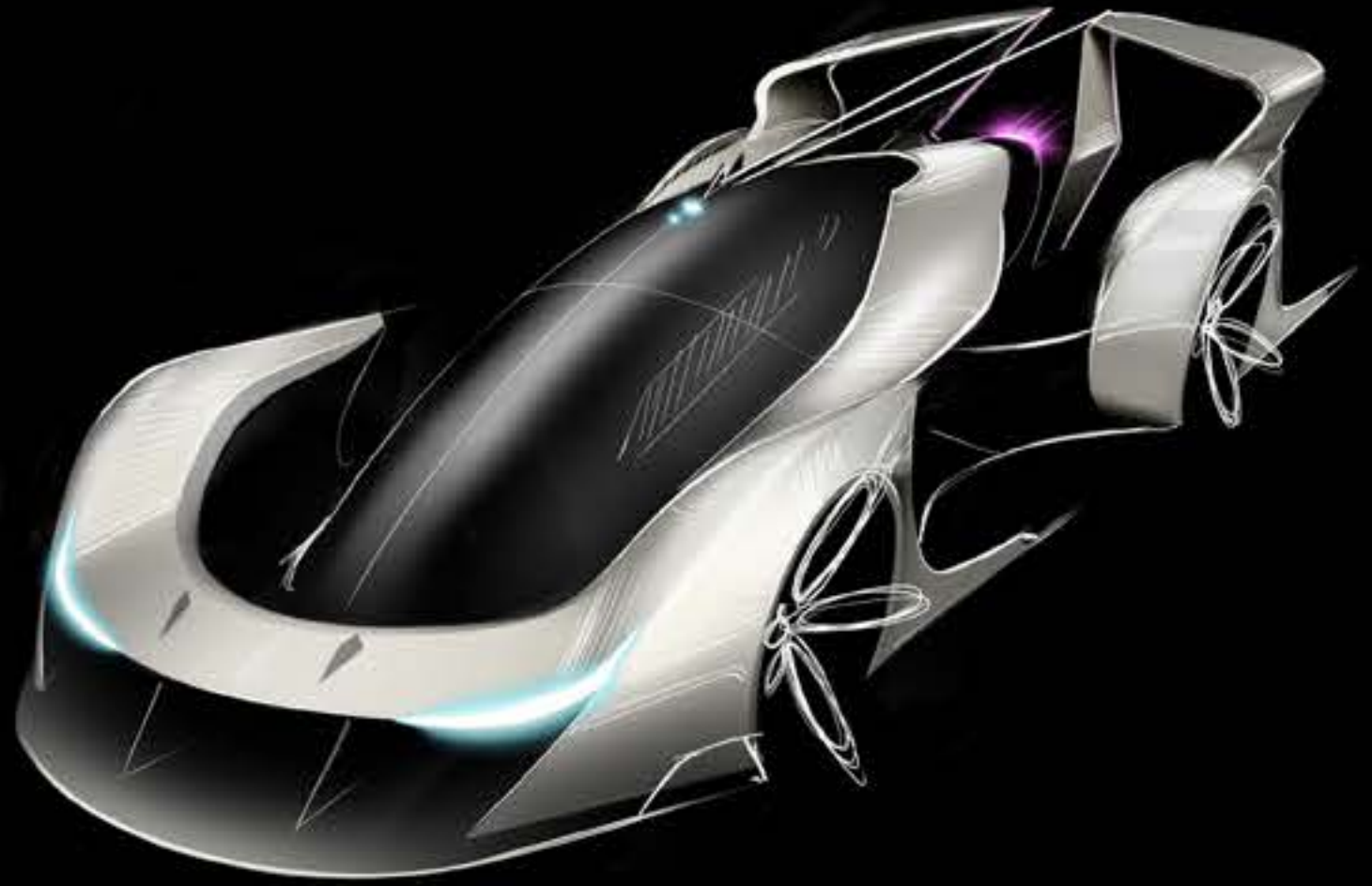
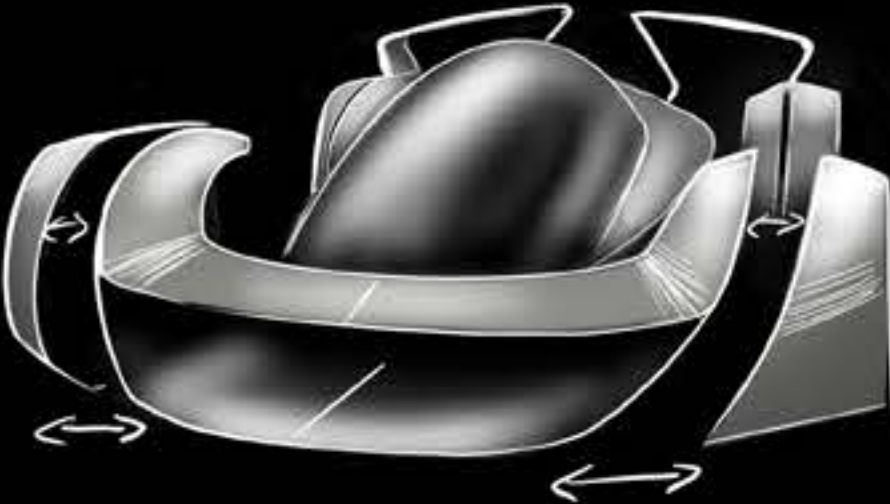
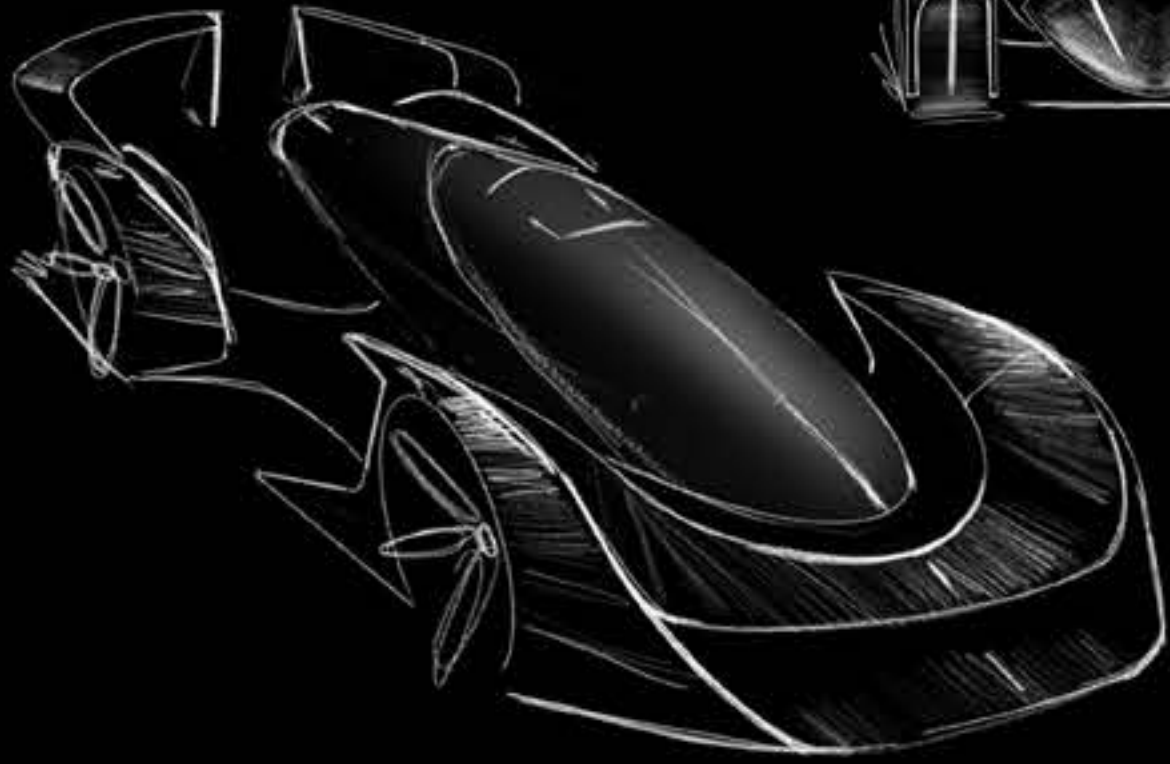


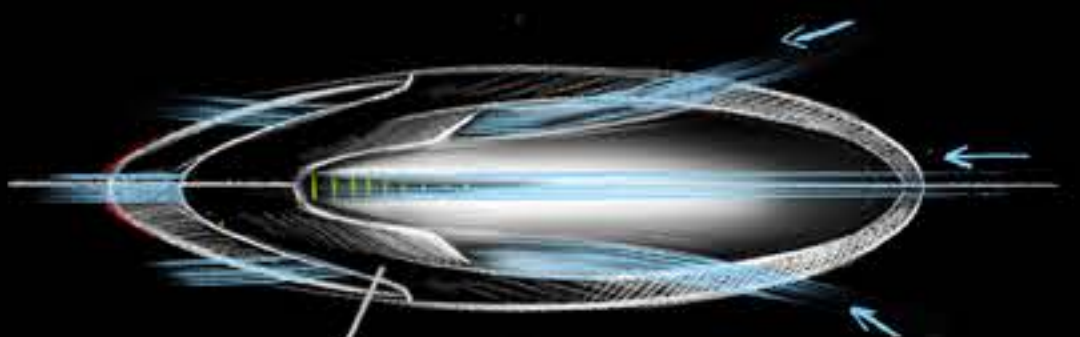
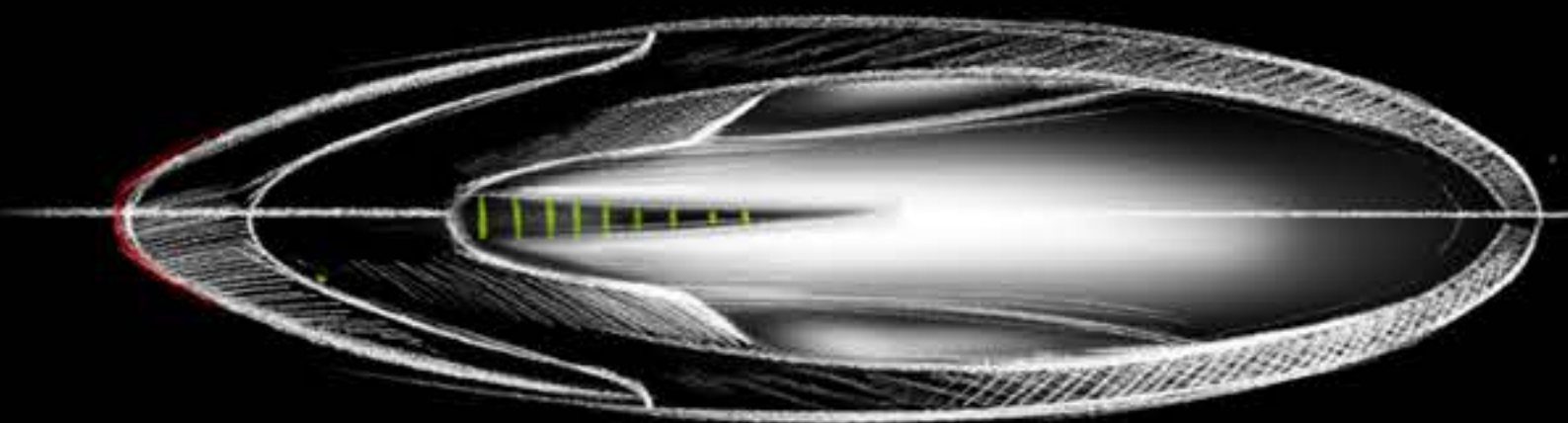
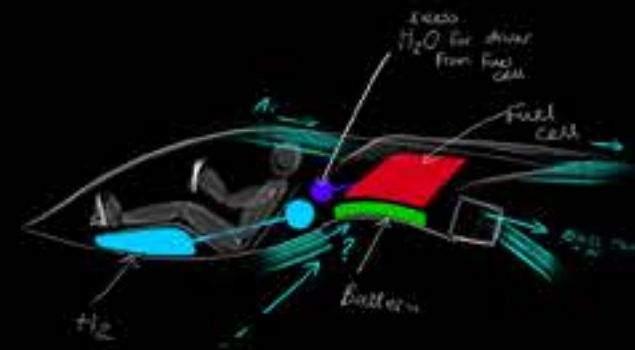
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Junior F1 driver
enjoys computer games
Spotlighted
Motorsport Enthusiast

Key Sketch



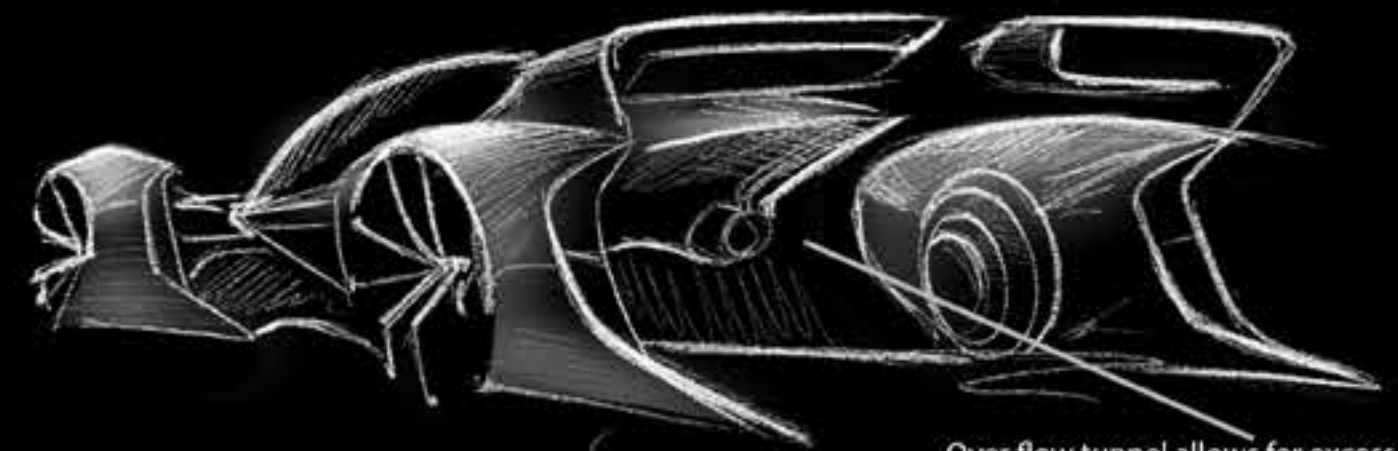
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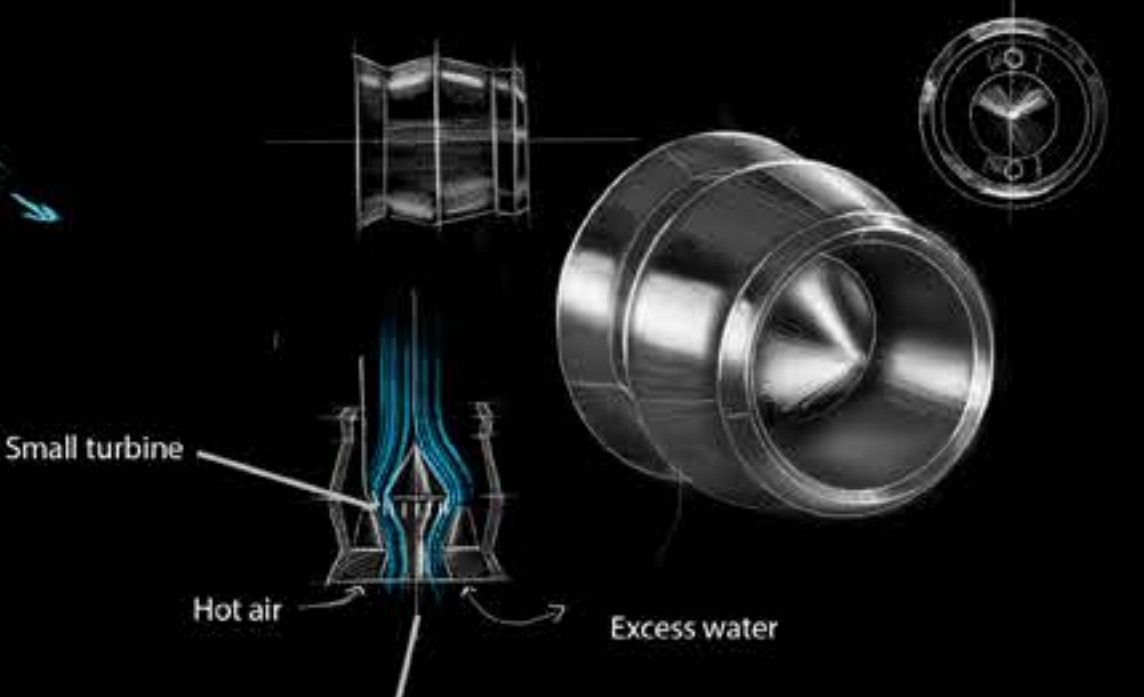


Adding the battery low at the rear allows for further cooling underneath the pod.

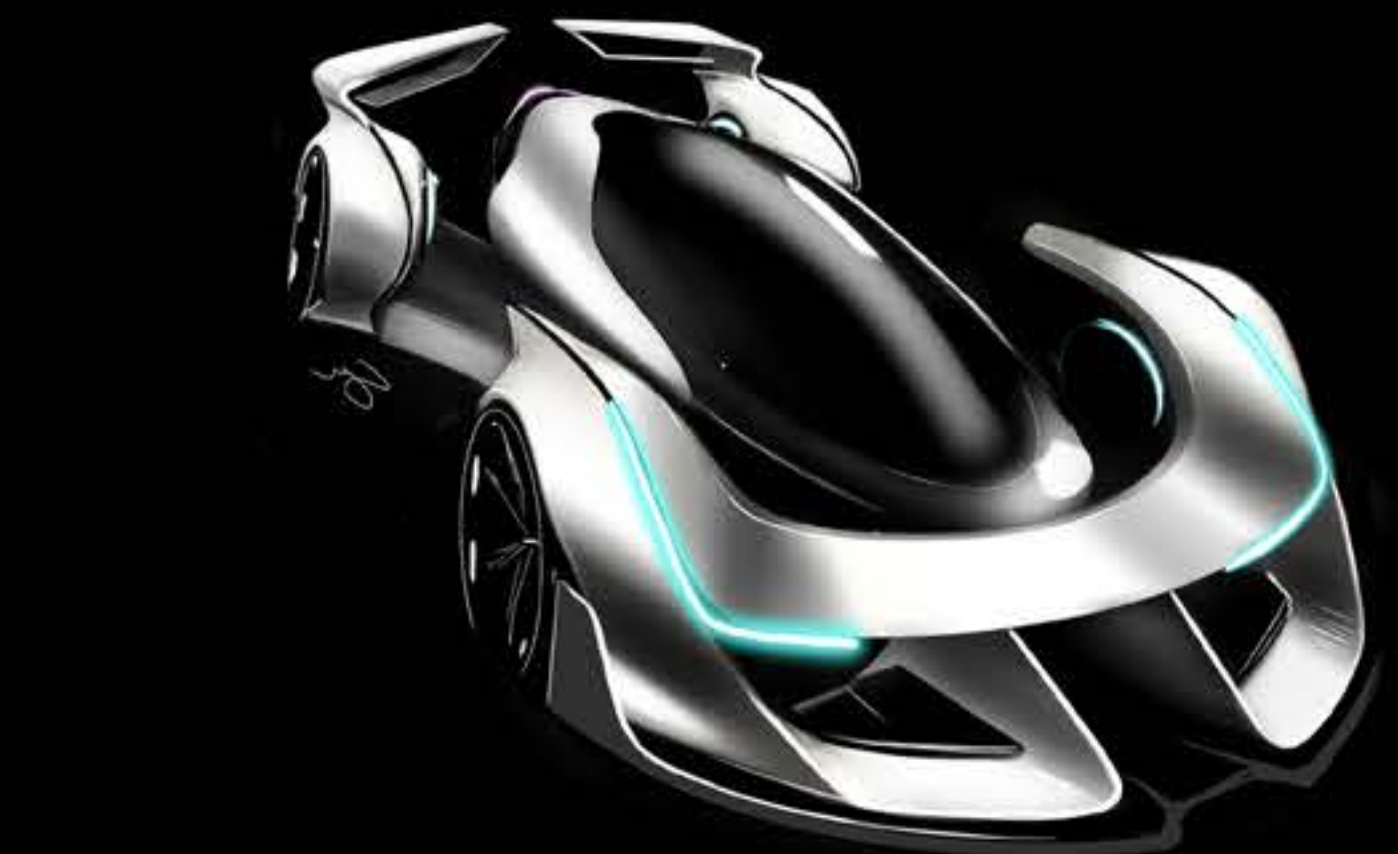
Adding exposed vents and cooling systems enhances the visual effect as well as serving a purpose of cooling internal components.

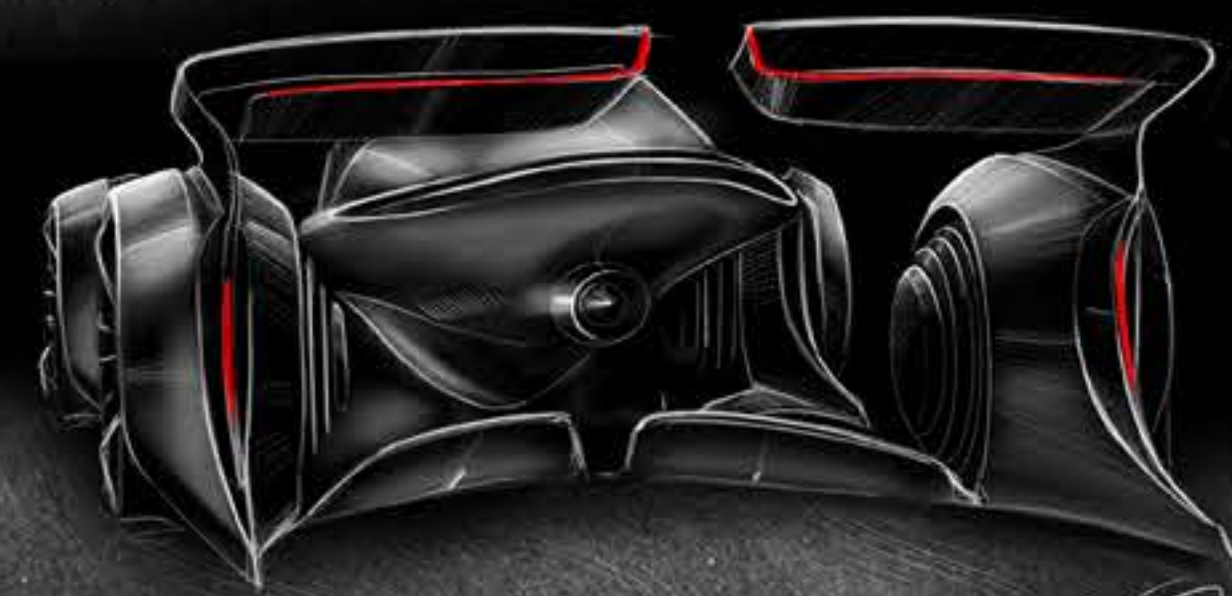
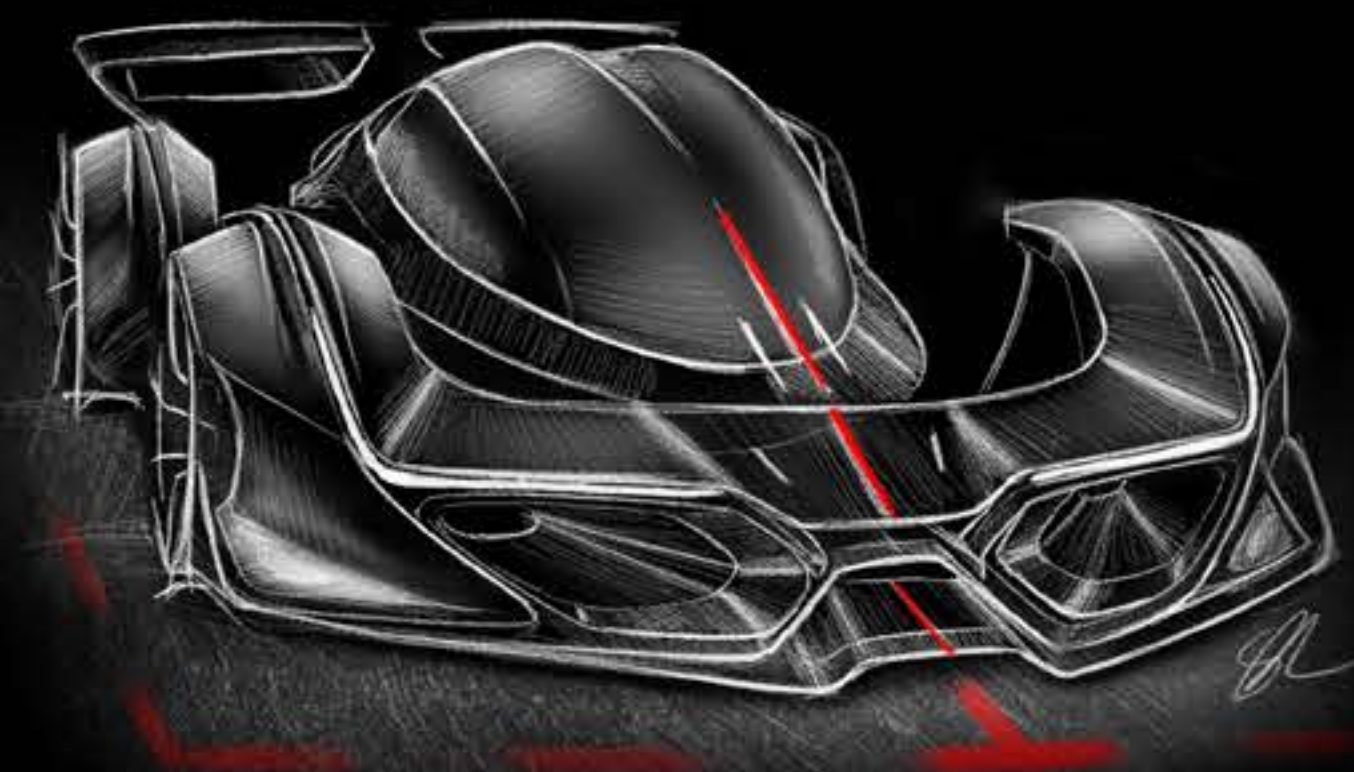
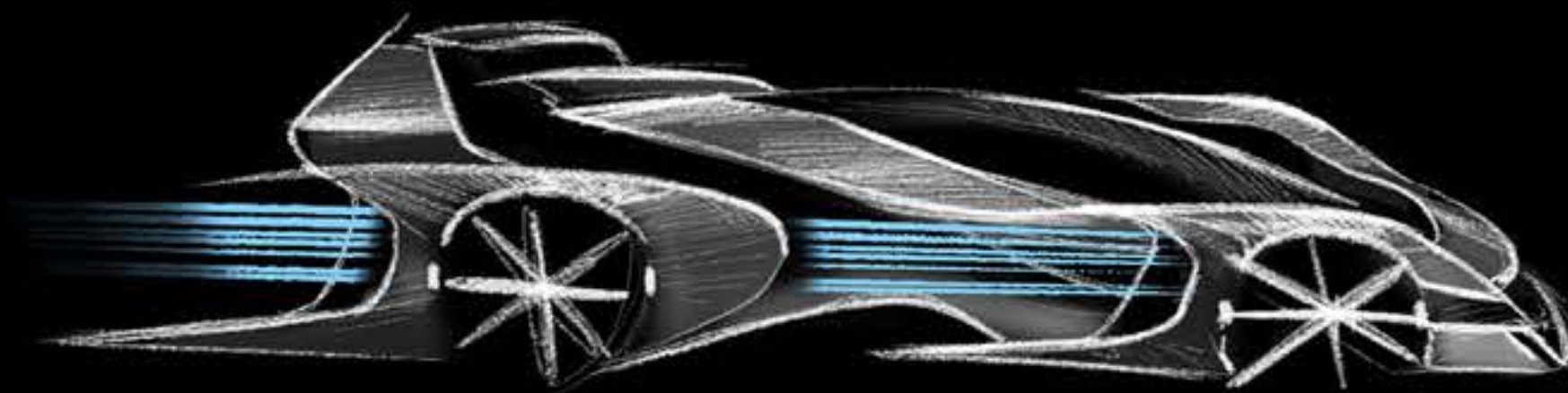
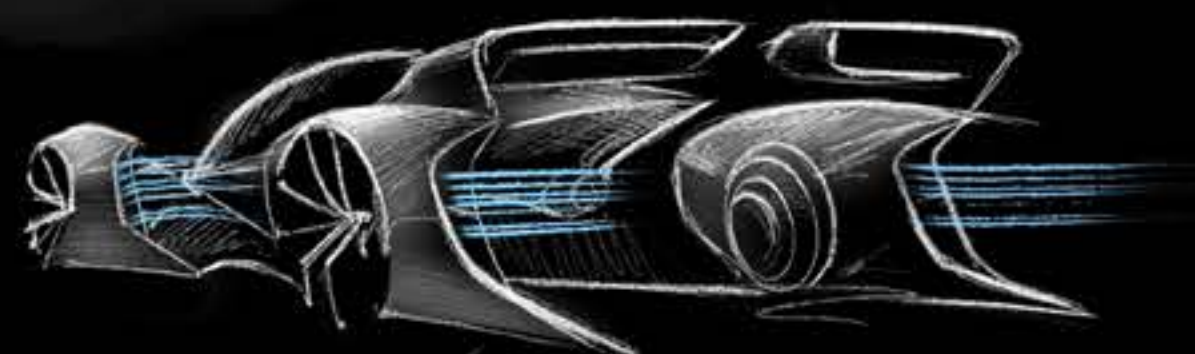
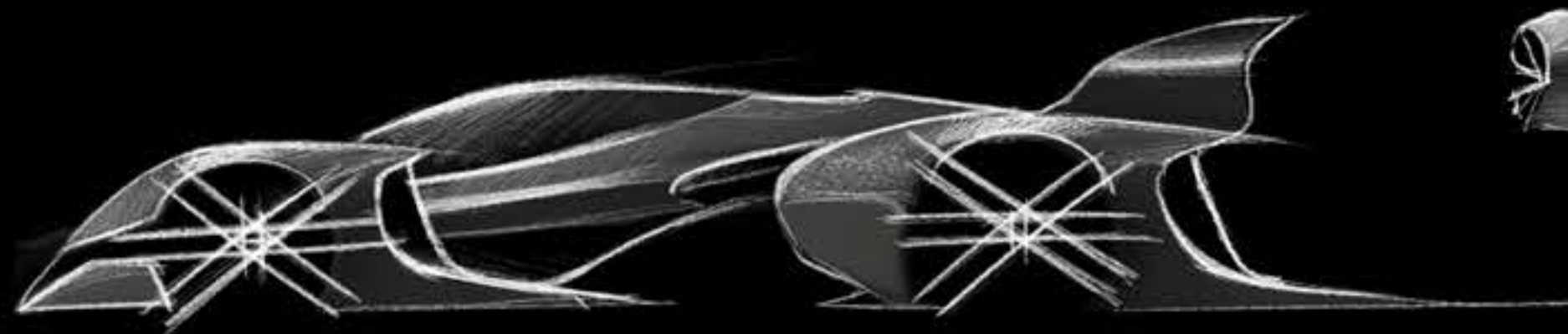


Over flow tunnel allows for excess air flow. The system also acts as an over flow for heat. Excess water will come out in vapour form preventing a wet track.

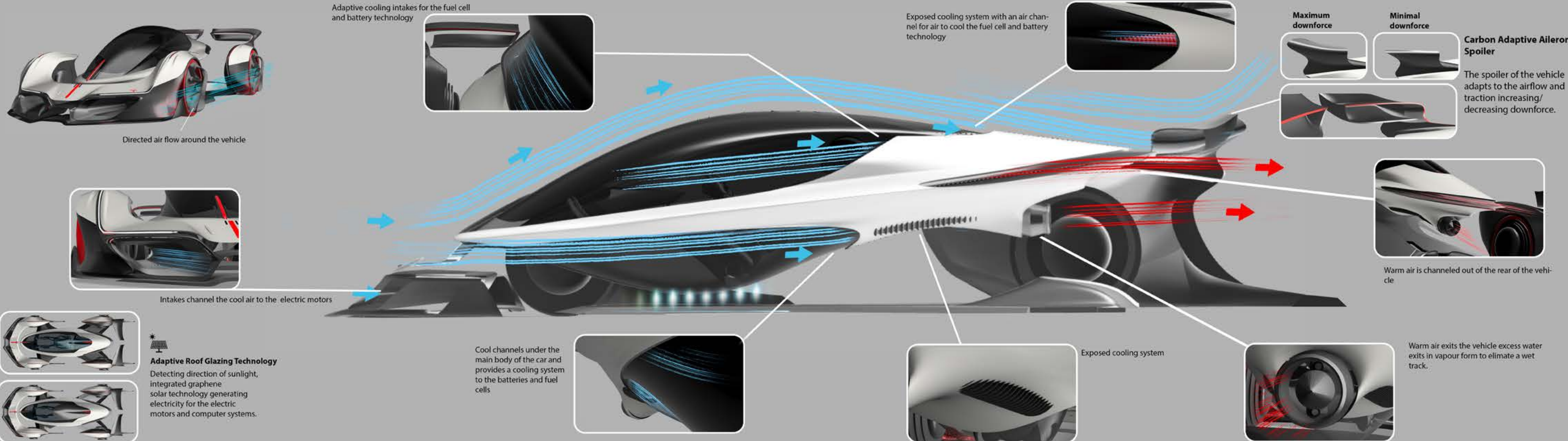


Excess air flow turning small turbine generating electricity





Vehicle Features



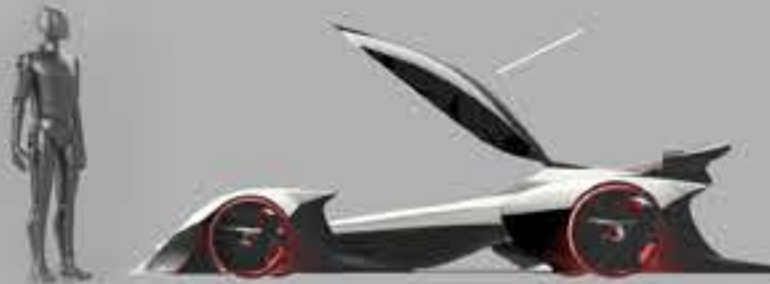
Steering Mechanism



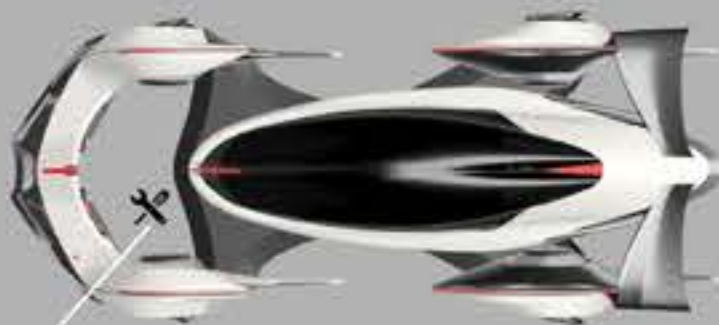
RACING/ DRIVING POSITION



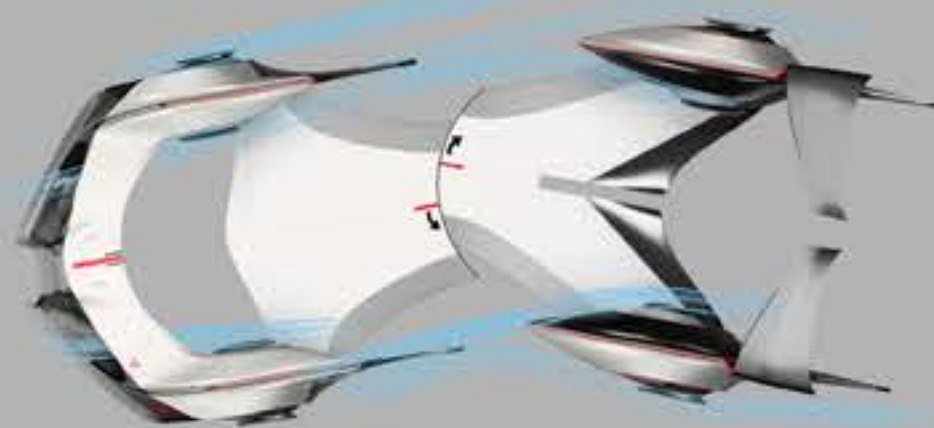
The vehicles main cockpit retracts using the magnetic suspension systems when not in use or when vehicle is switched off.



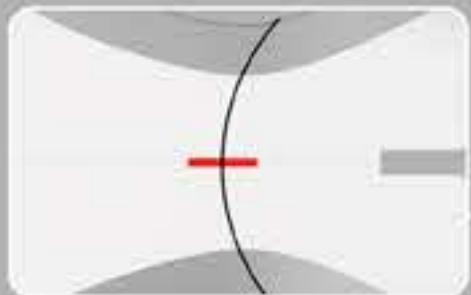
RESTING POSITION



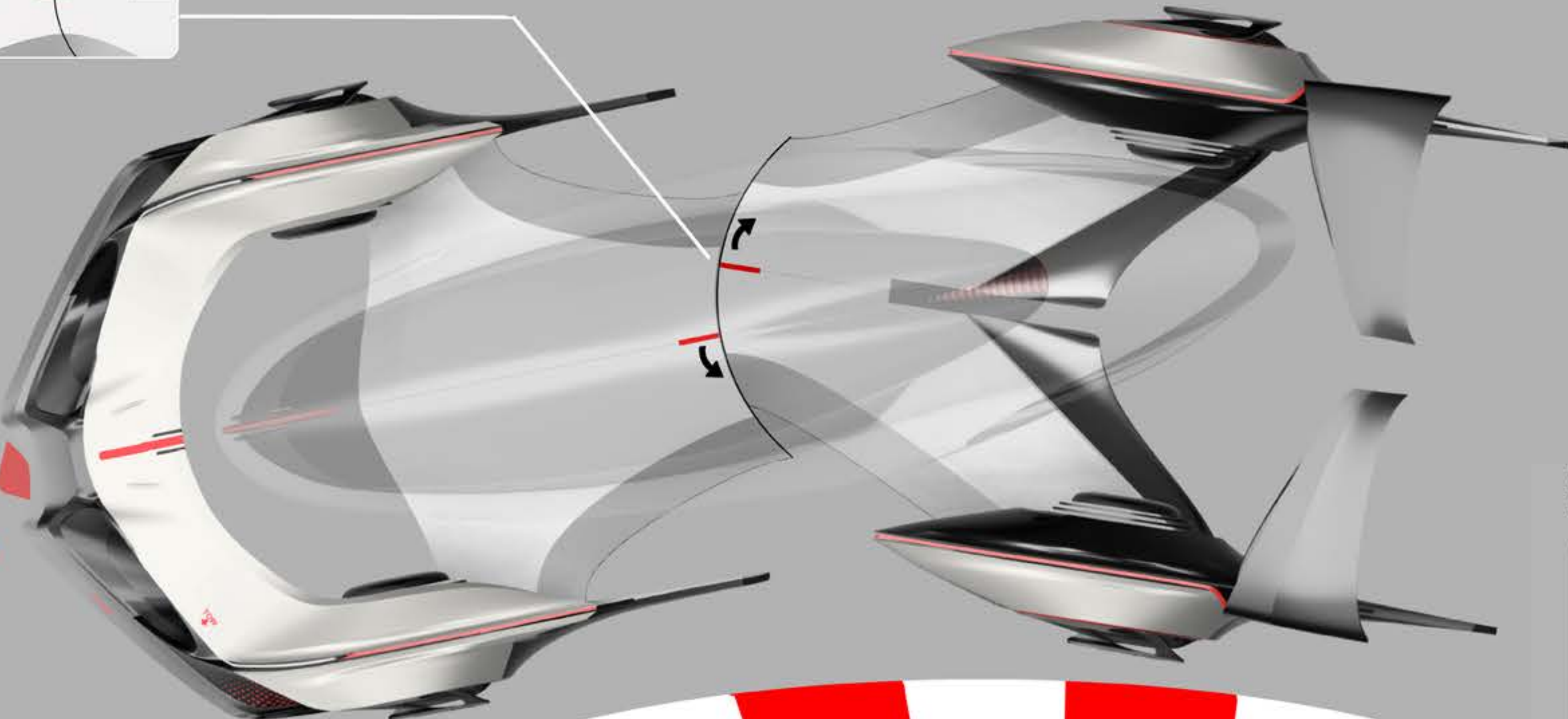
When the vehicle is in the resting position this allows easy access, to the front motors for servicing. The position also allows easy access for the driver to enter and exit the cockpit.



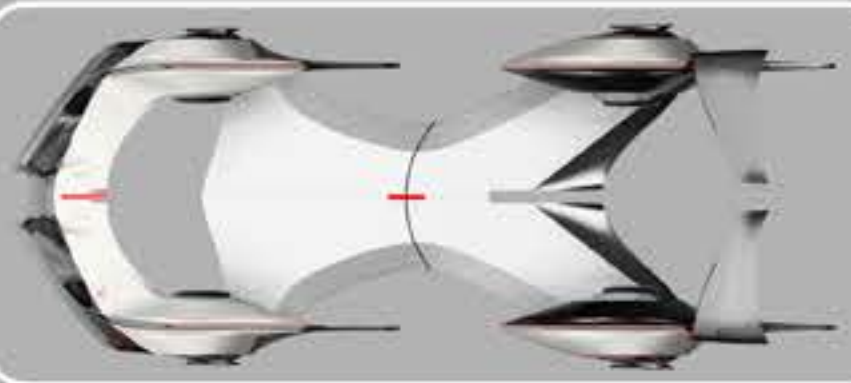
The longer fins on the front section channels air through and around the vehicle.



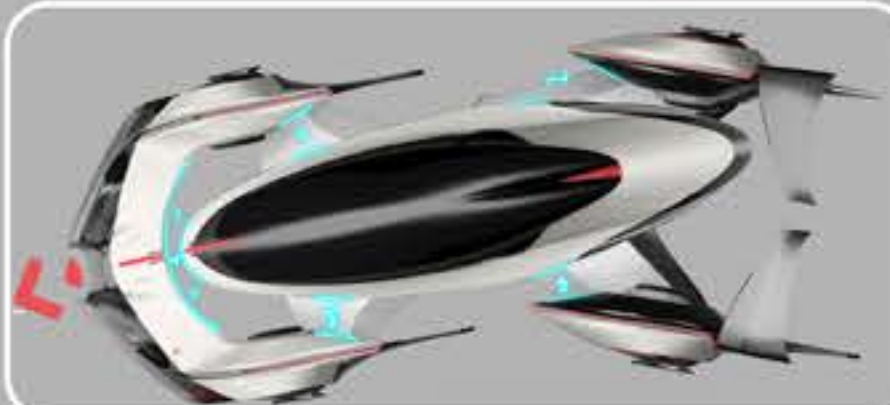
Alignment reference markers to ensure accuracy and fine tuning of the chassis before a race

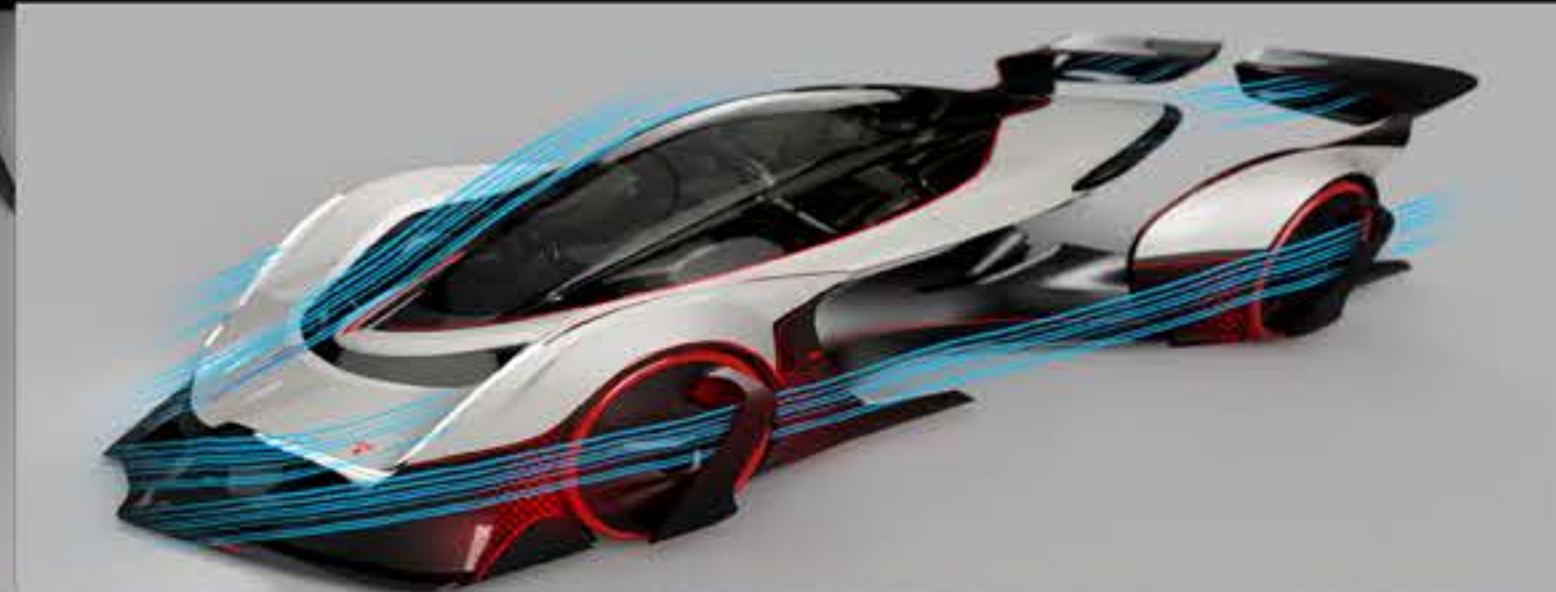


Independent chassis allows a smaller turning circle and increases the level of engagement for both the driver and spectators. The system also allows for improved steering accuracy



Magnetic levitation and stabilisation system prevents the main body from losing control and touching the sides of the pods when moving and cornering





THE FUTURE OF RACING

By Samuel Rees



SR 20

