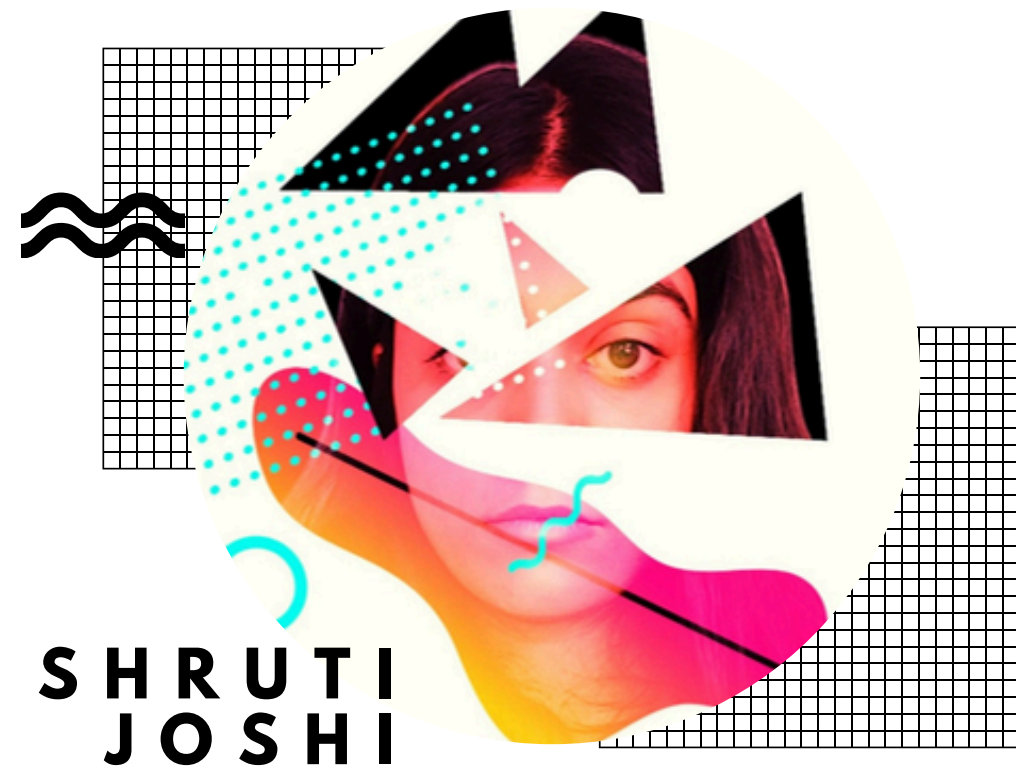


Hello!

This is an
Automotive
Exploration.

P O R T F O L I O

AUTOMOTIVE x SHRUTI JOSHI



**SHRUTI
JOSHI**

Being moto-curious, intrigued by human behaviour and eager to help create the future turned me towards automotive design. With an emphasis on answering the '*why*' for each brief, I like to develop a well-thought-out experience for users with immersive storytelling.

SHRUTIJOSHI5594@GMAIL.COM

AUTOMOTIVE DESIGNER

WORK EXPERIENCE

2024

OLA ELECTRIC, INDIA
AUTOMOTIVE DESIGNER

- Lead Designer for S1X
- Worked on Ola M1 and M3 projects, with respect to early concept ideation, details, and CMF.

2020

RDS MENTORSHIP PROJECT, FRANCE
TRANSPORTATION DESIGNER

- Mentored project under the guidance of David Bochatan, CHD Studio.
- Indian Motorcycles response to competition in the area of electric motorcycles

2020

ADB GLOBAL SALES, SPAIN
INDUSTRIAL DESIGNER (*in progress*)

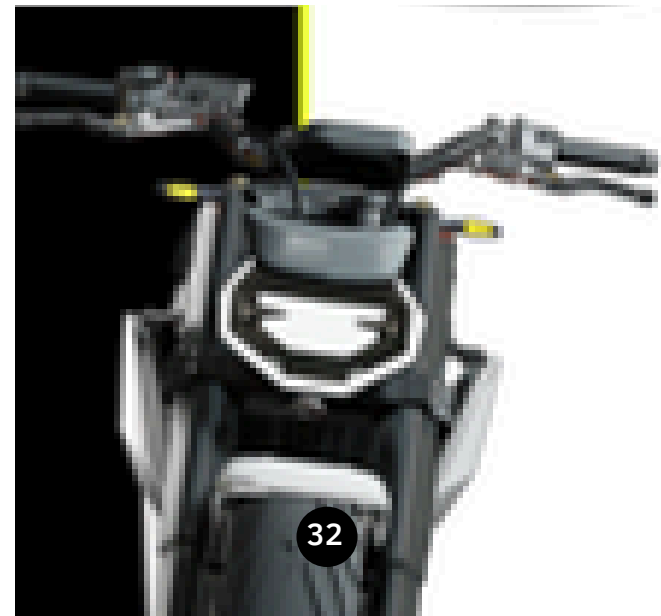
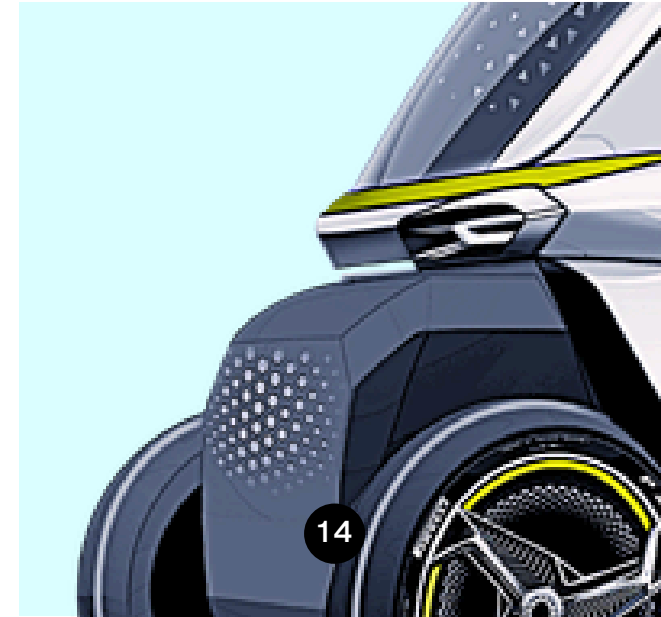
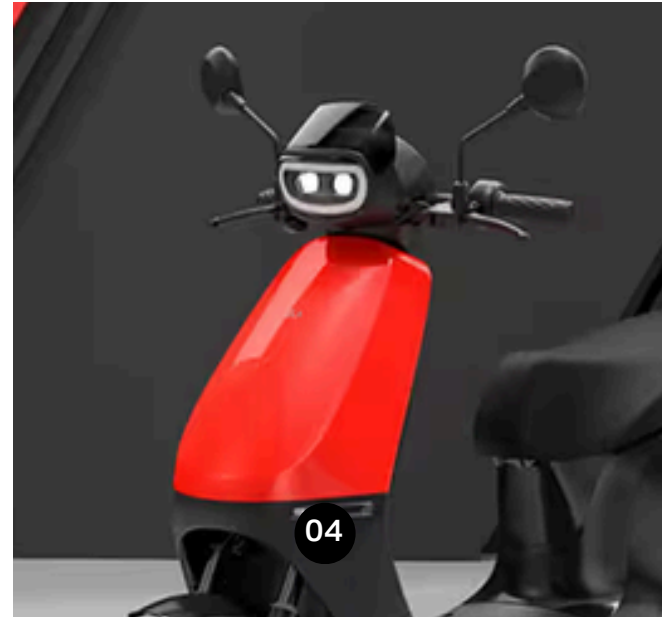
- Worked on creating concepts of a redesign for the Front Facia of the DAF XF
- Designed client pitch presentations

2018

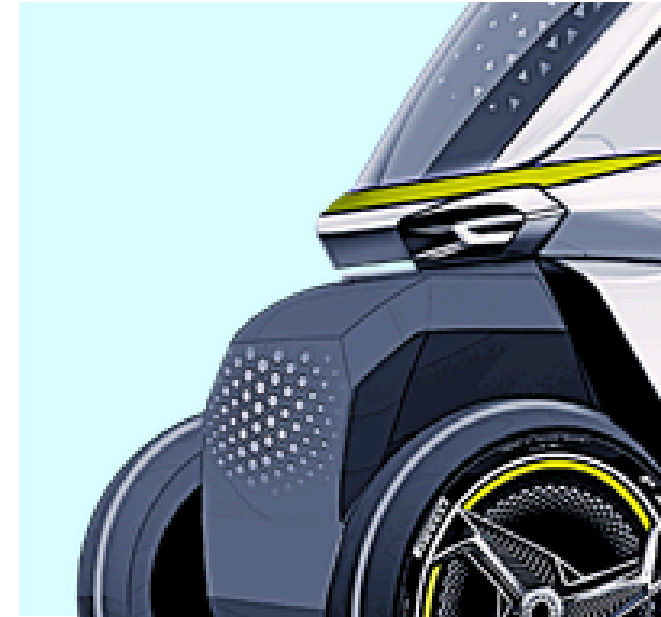
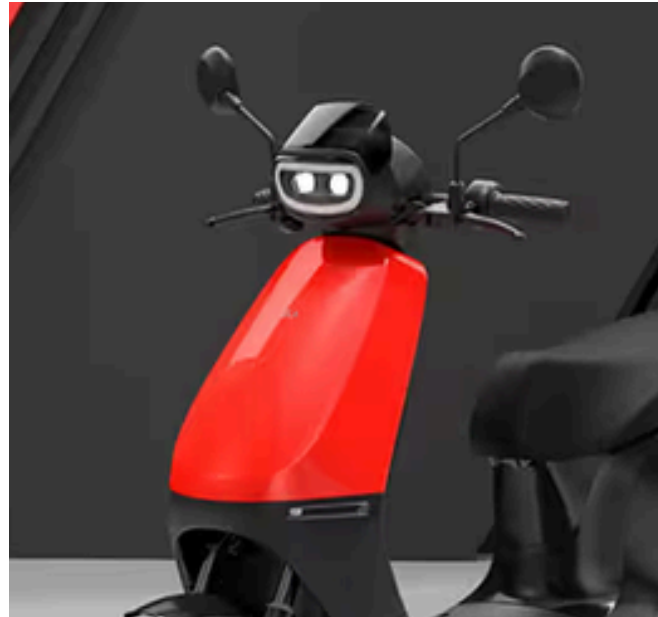
STUDIO FIFI, INDIA
INDUSTRIAL DESIGNER

- Concept for digital media and marketing campaigns for several clients
- Space design for cafe and restaurant spaces and stores
- Furniture and product design for the parent studio
- Brand building campaigns

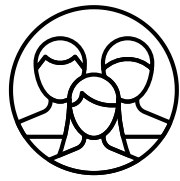




contents



contents



01.

OLA S1X

Mass market scooter - affordable to build, affordable to buy.



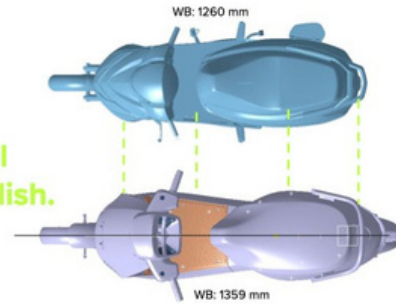


Abstraction-Fact Phase



make it indestructible

Practical over stylish.

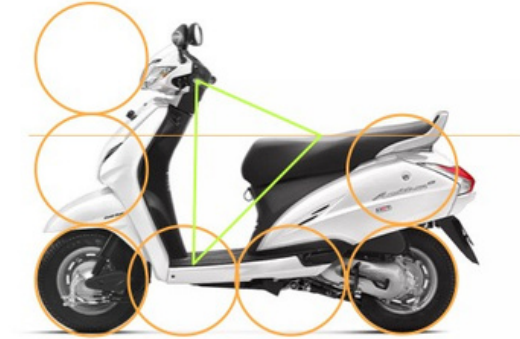


- Front width and outermost points
- Floorboard shape for usability
- Seat shape for ergonomics
- Placement and shape of passenger grab handle

Even more safety! Make the most of it.



HONDA ACTIVA



Well, not indestructible. But, durable/ long lasting.

"Heavier than other Scooters, Metal Body. Even if there is a dent, will repair when I need"

These choices make the scooter more User Focused, and make the product more desirable

"Very comfortable, half price of CBS10, but has storage, can use floorboard and seat in my, comfortable with my husband and kid"

This Safety is for the scooter. Maximum ROI from the purchase.

Volume Study to understand visual weight and proportion.

Same, same, not different.



Ola's most accessible Scooter

For a family. With a sense of safety. And all the convenience.

architecture conceals the rider



Across different ages and genders, the scooter covers the riders.

Cookie cutter scooters, but familiar. No risk, no need for something different.

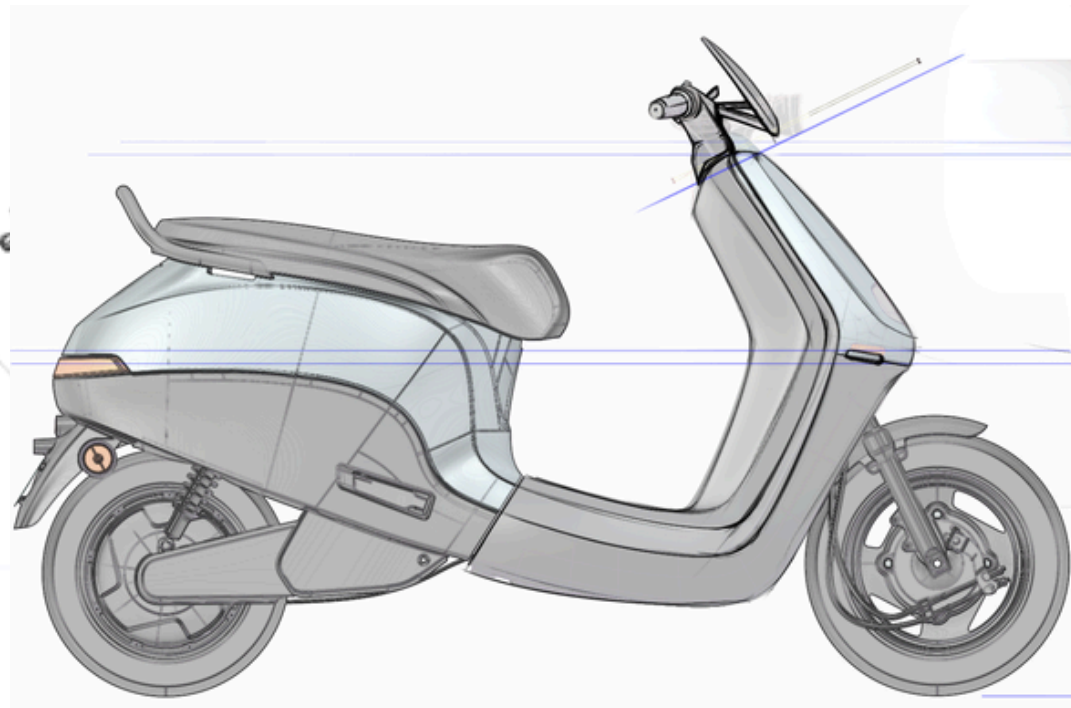
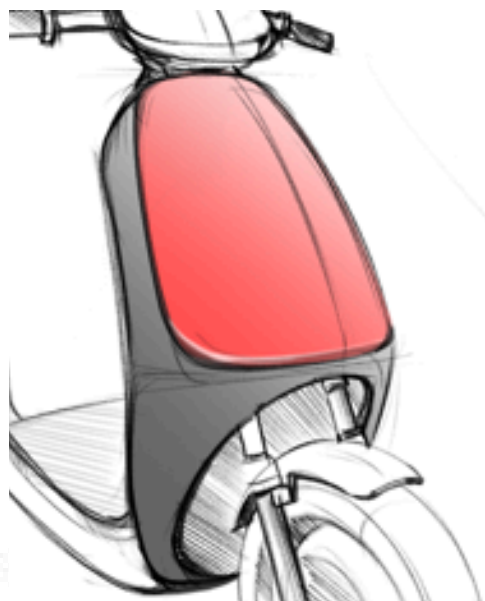
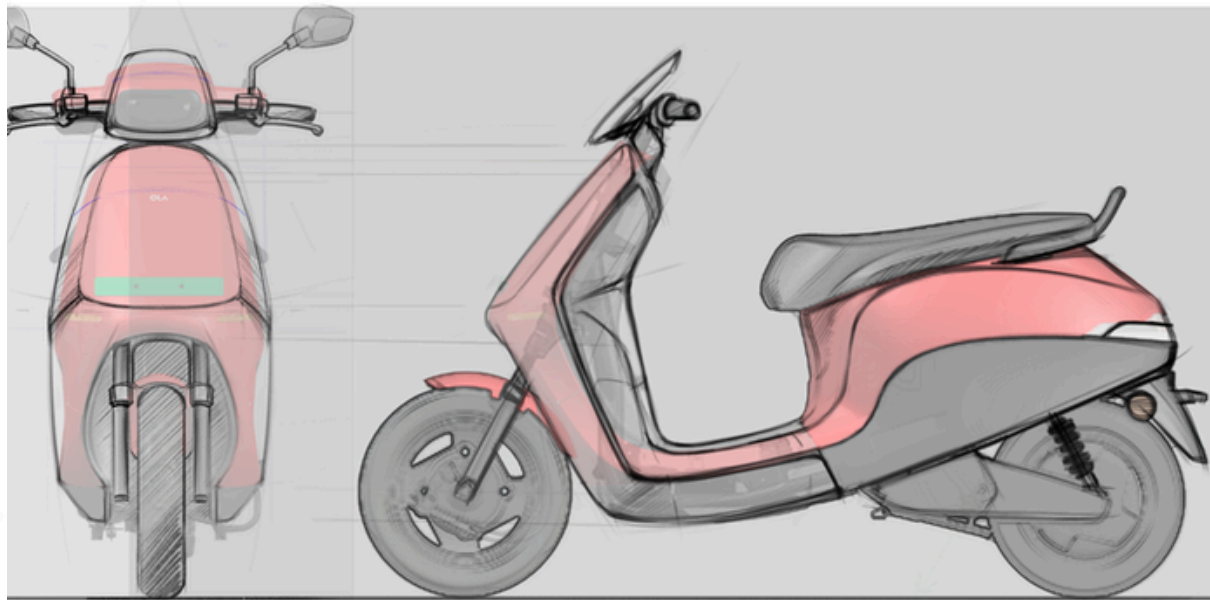
"previous Access was old, upgraded to latest. Just like we upgrade phone. Top End, all the features"



A lot more scooter for your money!

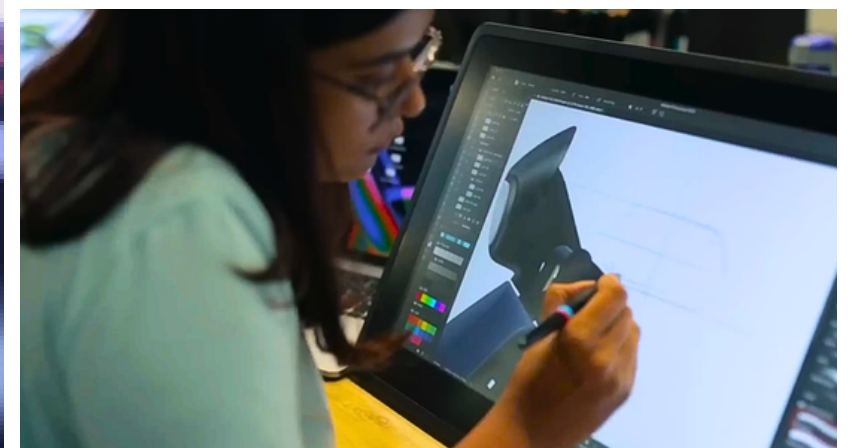
Visually the scooter carries more mass, feels bigger, feels like more value for the money.

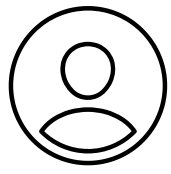
"I was thinking of Ola, but it's too small, light weight, also it is very fragile and easily gets damaged."





GEN 3



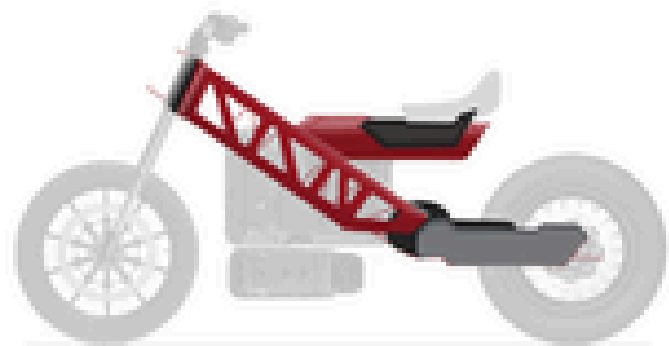


02.

ELECTRIC INDIAN

An EV exploration for the future of Indian motorcycles, to make their mark, where others have started.





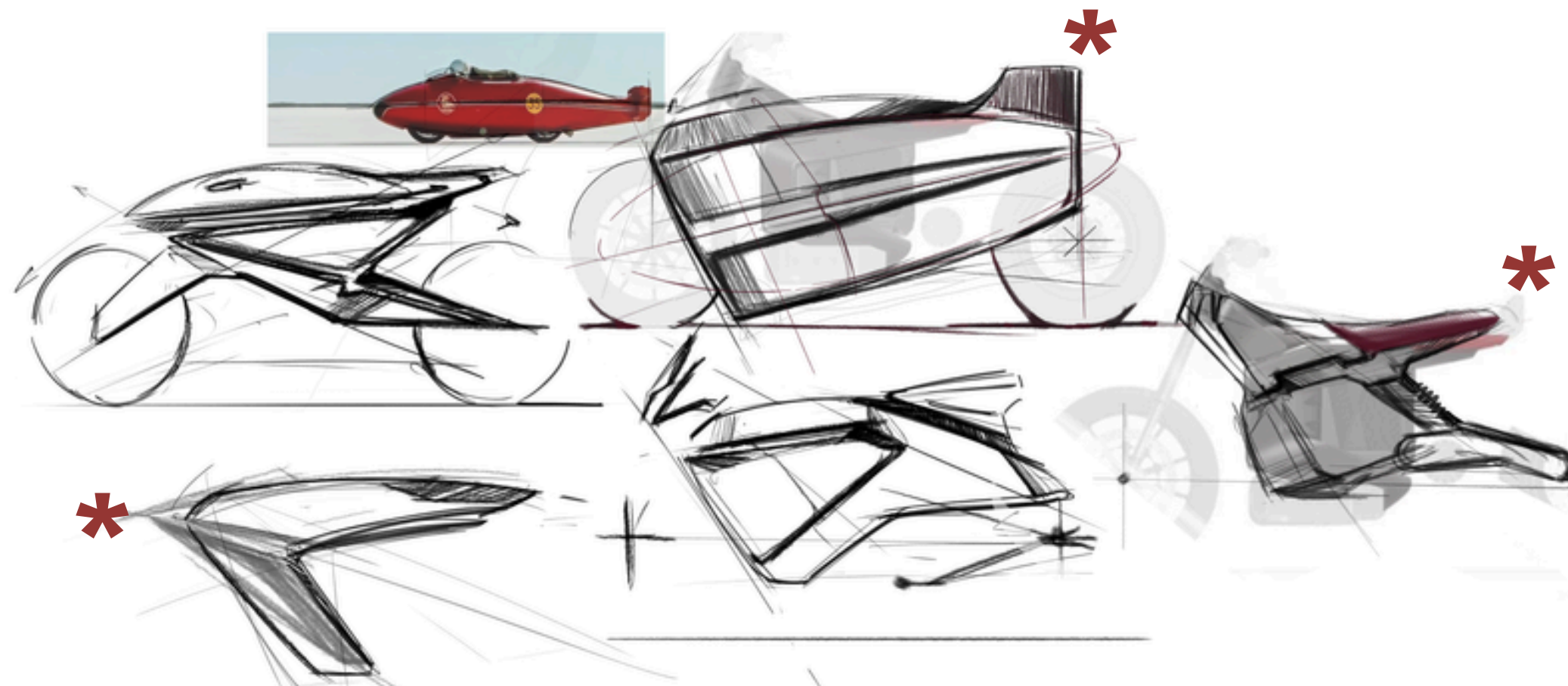
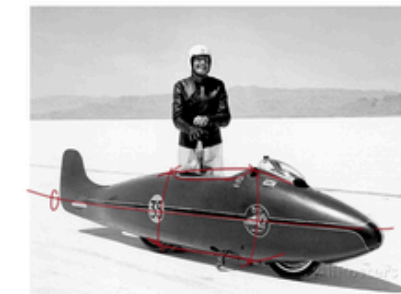
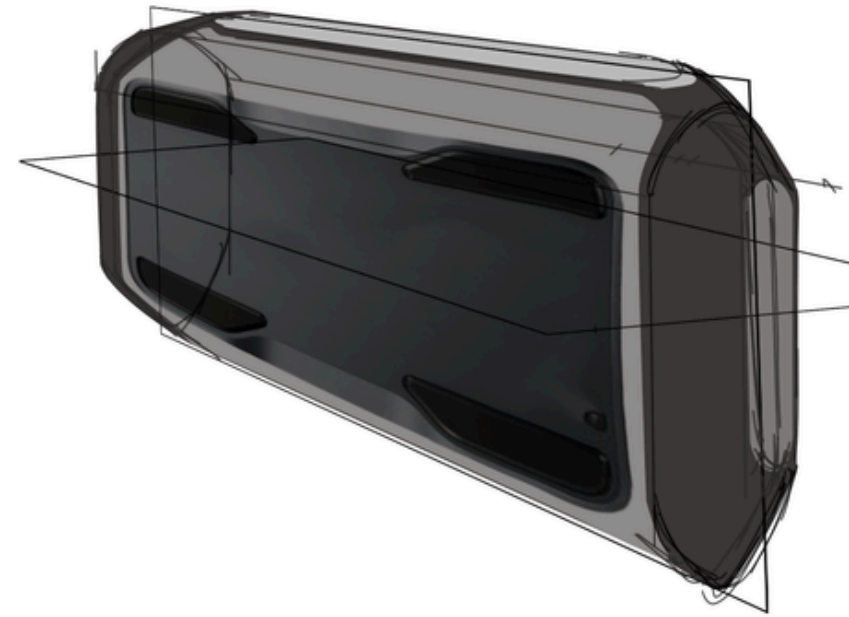
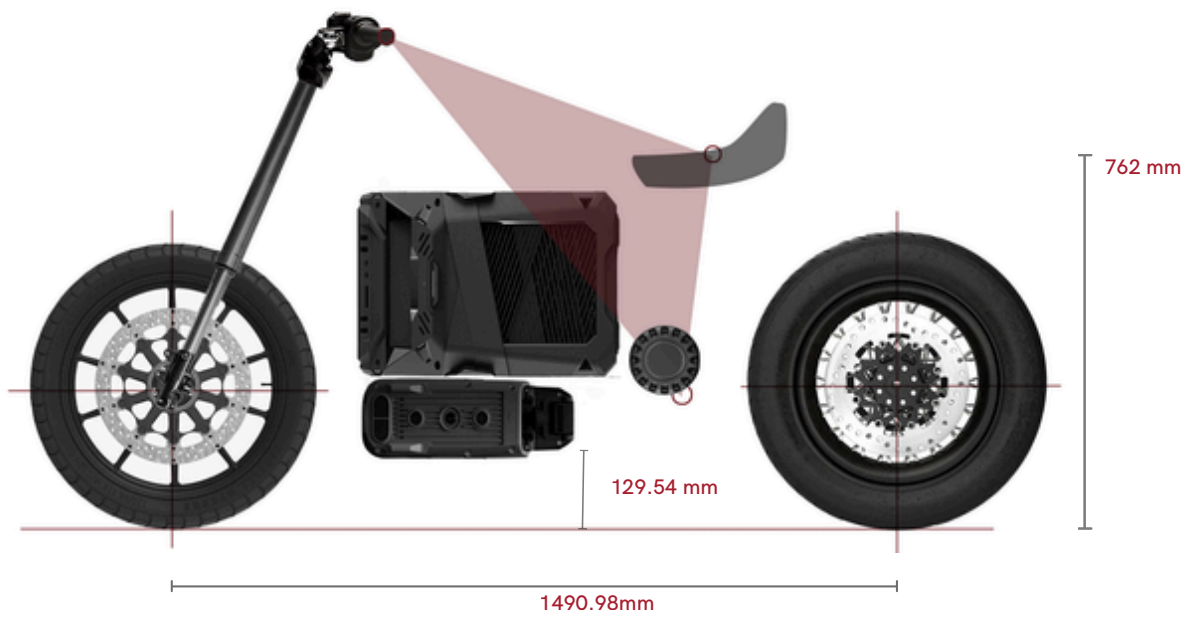
Chassis Exploration

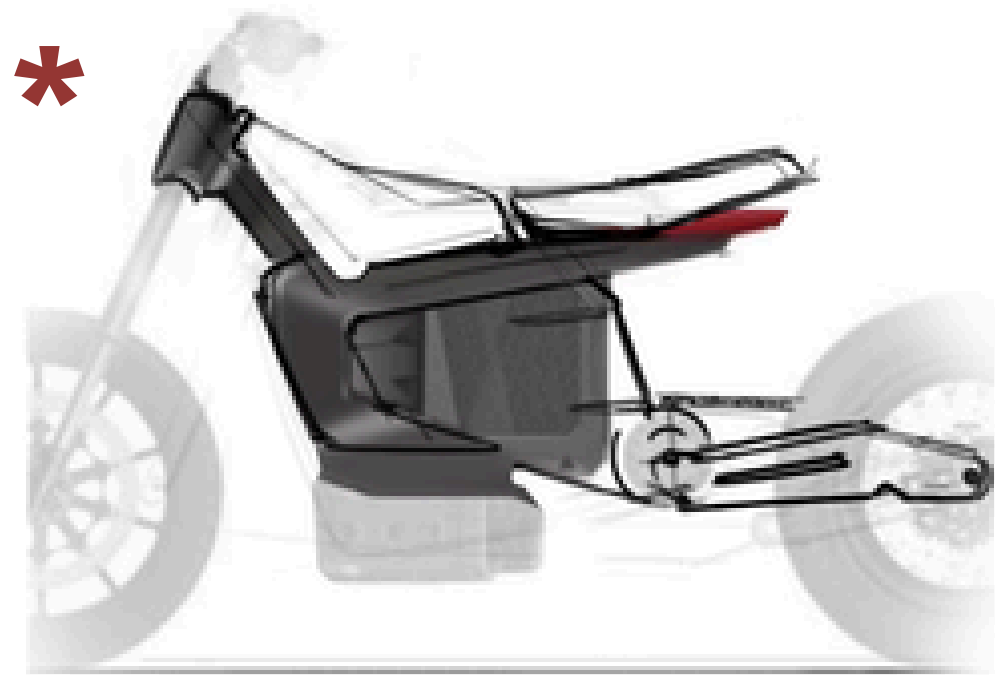


BASE PACKAGE

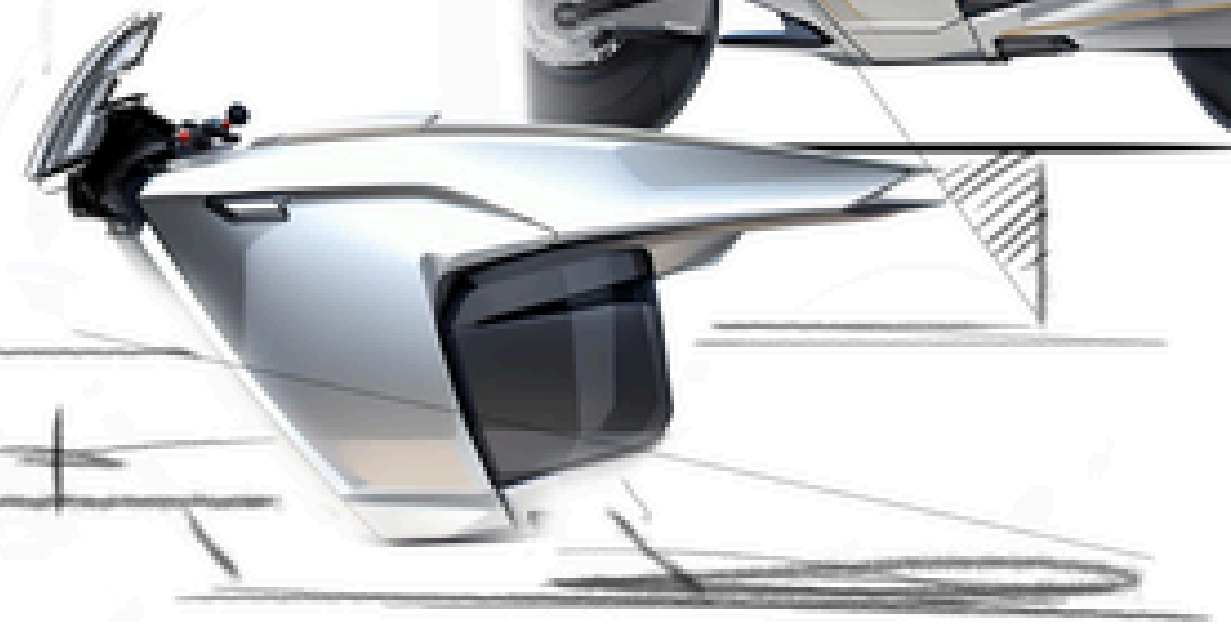
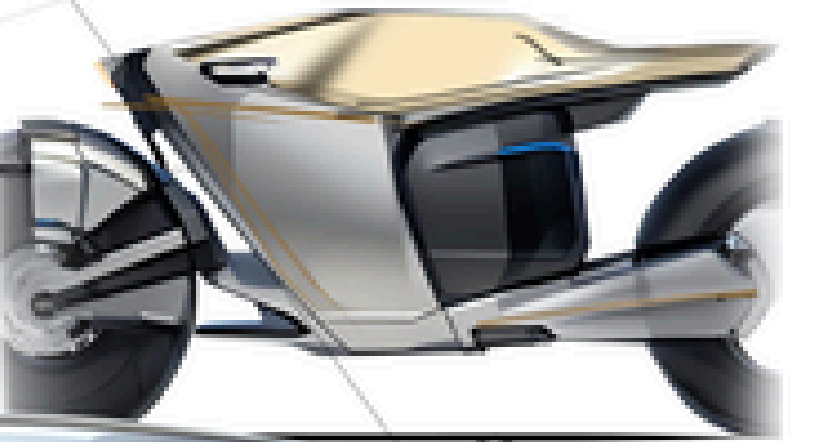
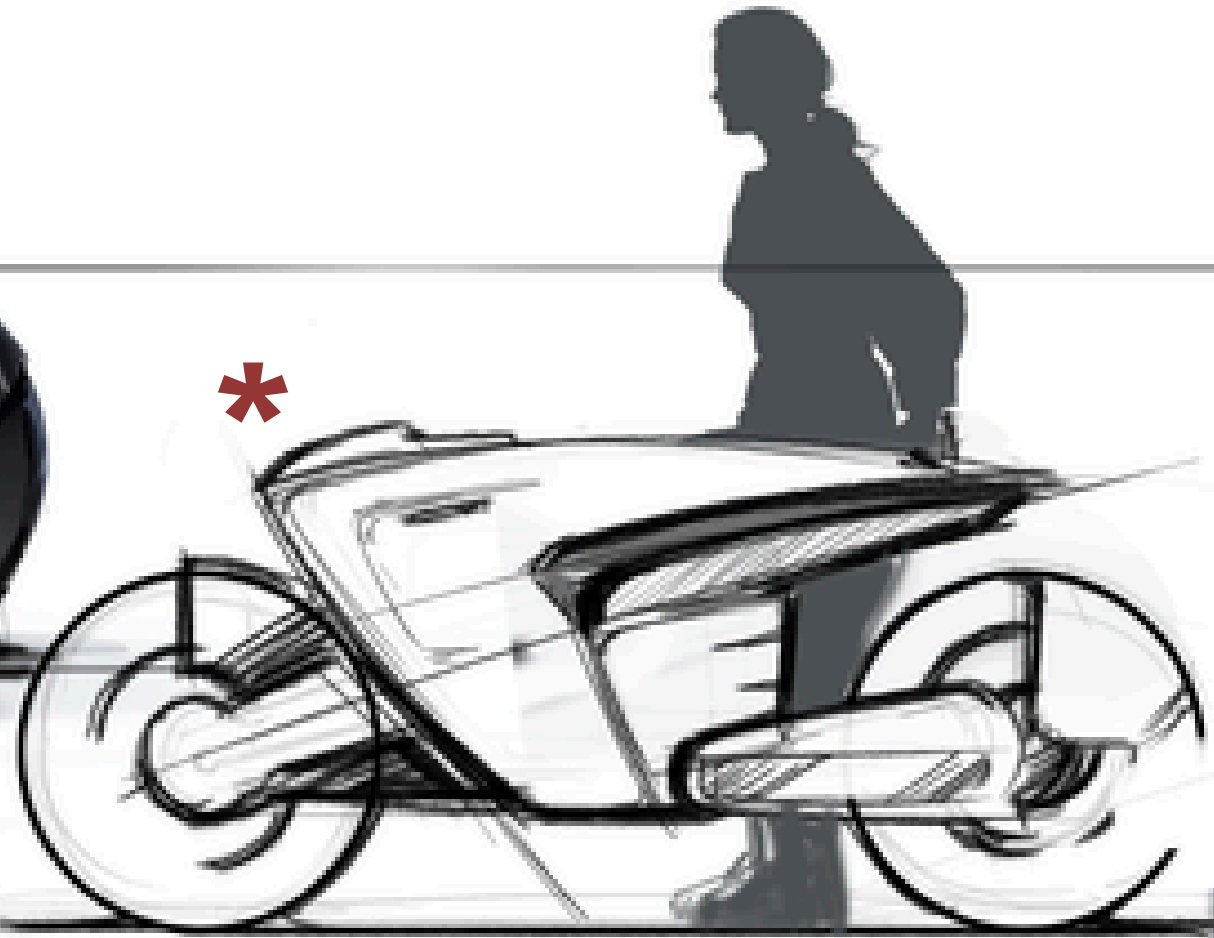
Based on HD Livewire, for a Roadster x Streetfighter motorcycle packaging a 75kWh battery.

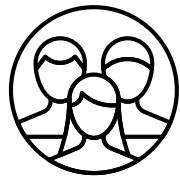
Length : 2136.14 mm
Rake : 622.3 mm
Trail : 116.84 mm







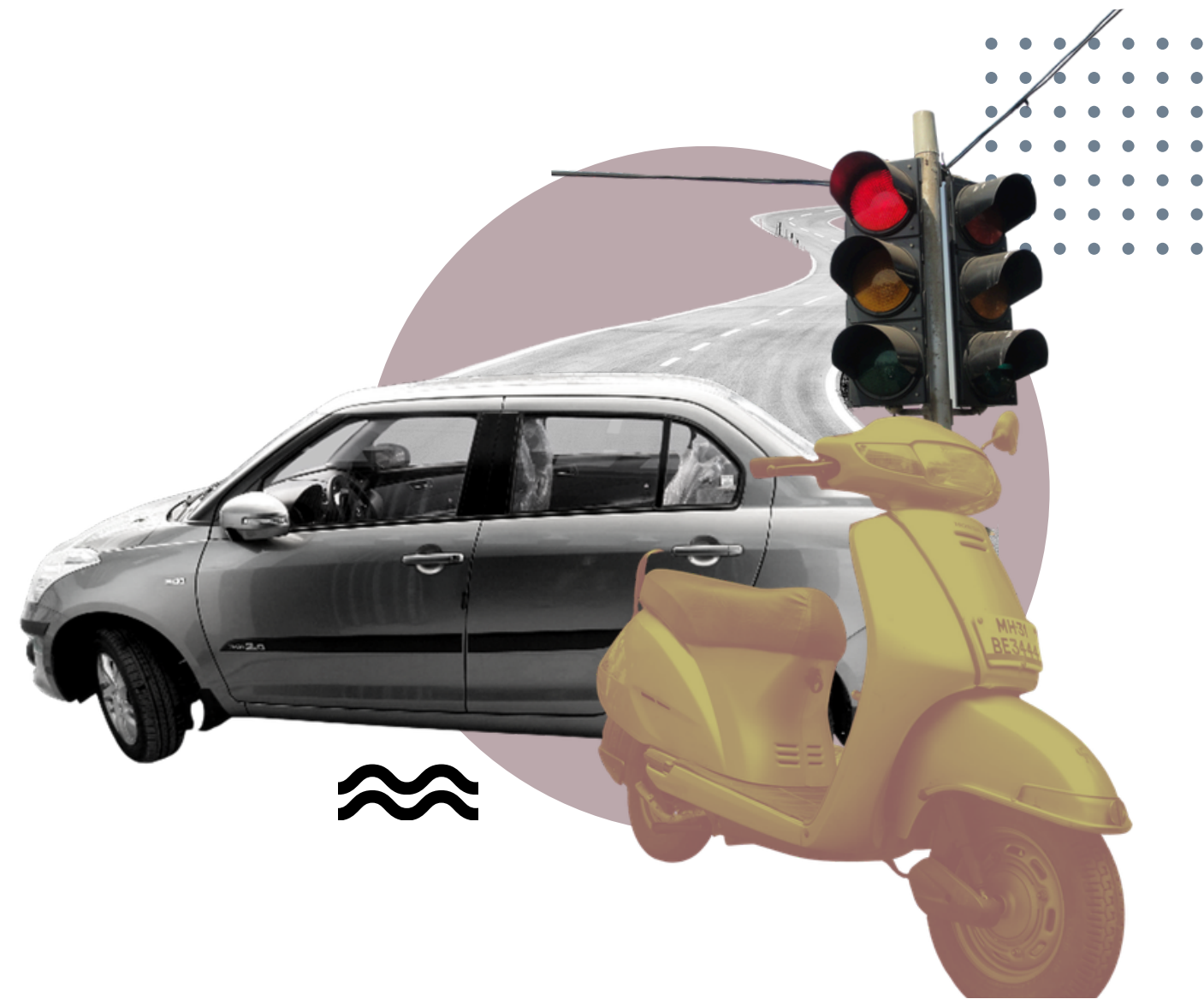




03.

ELECTRIC TRIKE

Bridging the gap between a car and a scooter by proposing a format that can ease the user's everyday life.
(Team Lead)





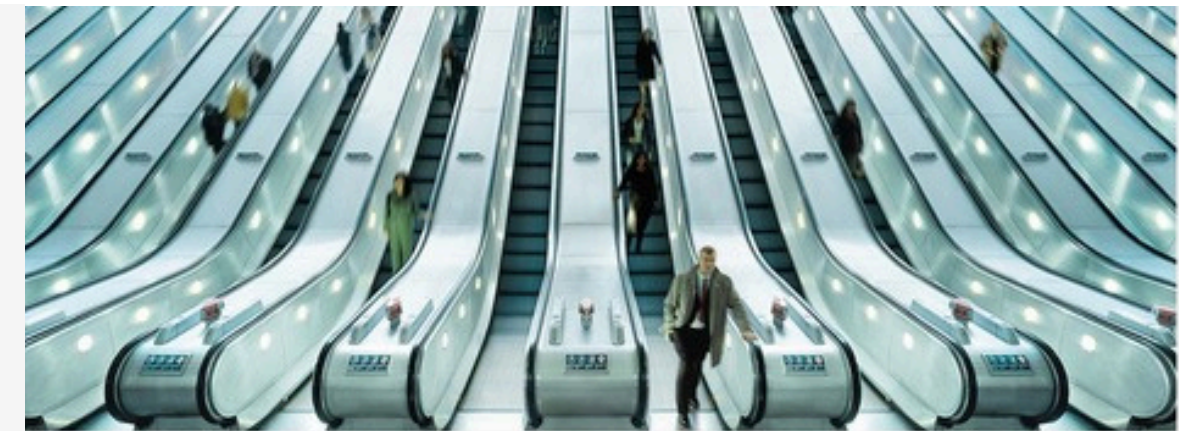
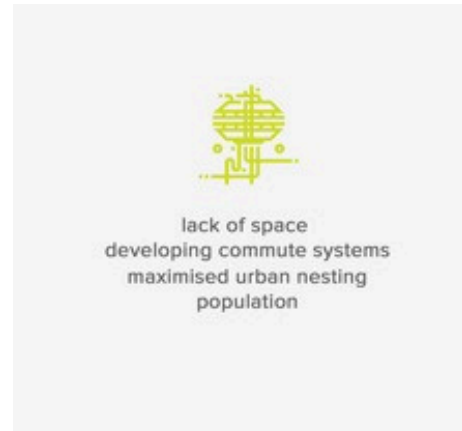
SCENARIO : NOW & FUTURE



78% cars are used by a single passenger

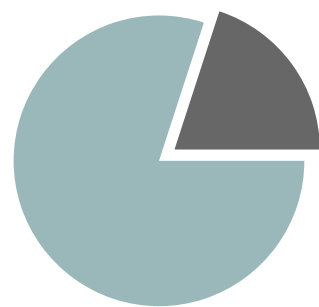
as opposed to their 4-5 passenger capacity

Inefficient use of resources like time, fuel and space.



Future looks more congested with the expected growth.

1/2 Sized Mobility :



large footprint

- more affordable
- quick through traffic
- small footprint
- ease of parking

- weather protection
- safety provision
- storage possibility
- no riding gear needed

lack of safety



car v/s scooter

3 Themes :



menage



personal sanctuary



urban nomad



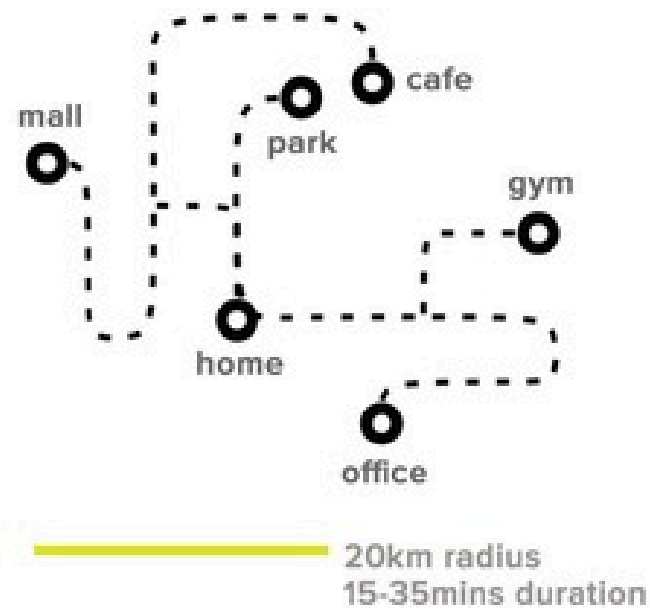
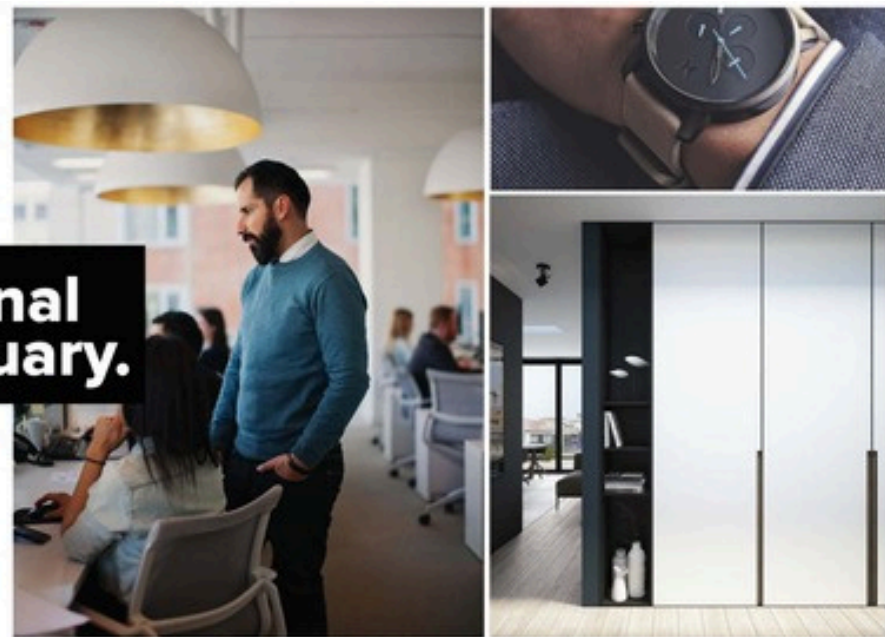
This was also a an oppourtunty to establish a seating layout and a scale that was being worked with.

2780mm x 950mm x 1750mm

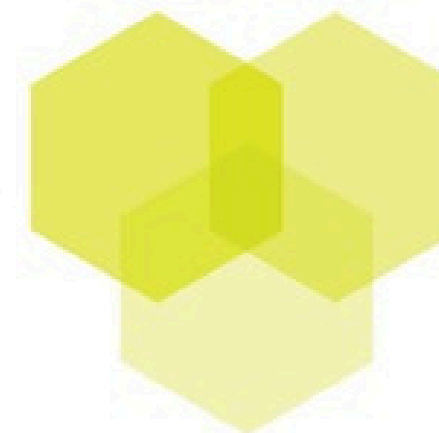
Theme chosen:



personal sanctuary.

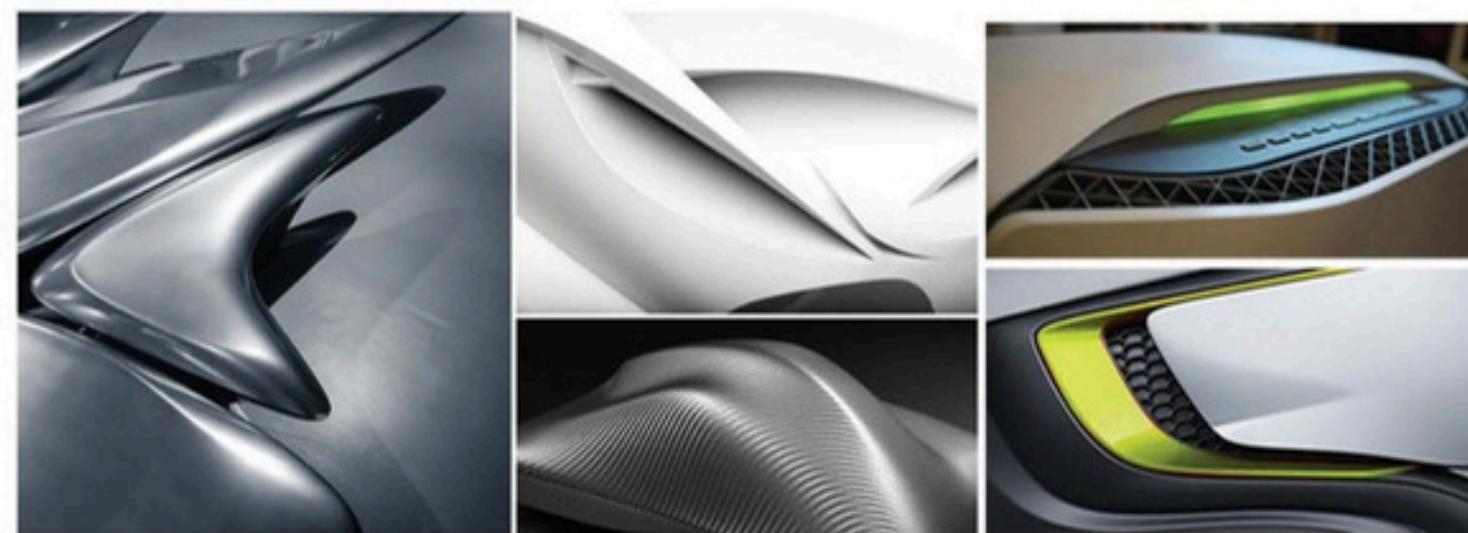


compact package
spacious legroom
for front rider



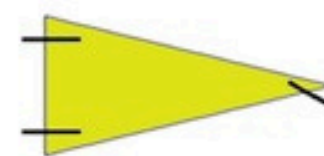
premium materials
digital connectivity

interactive features like
retractable steering

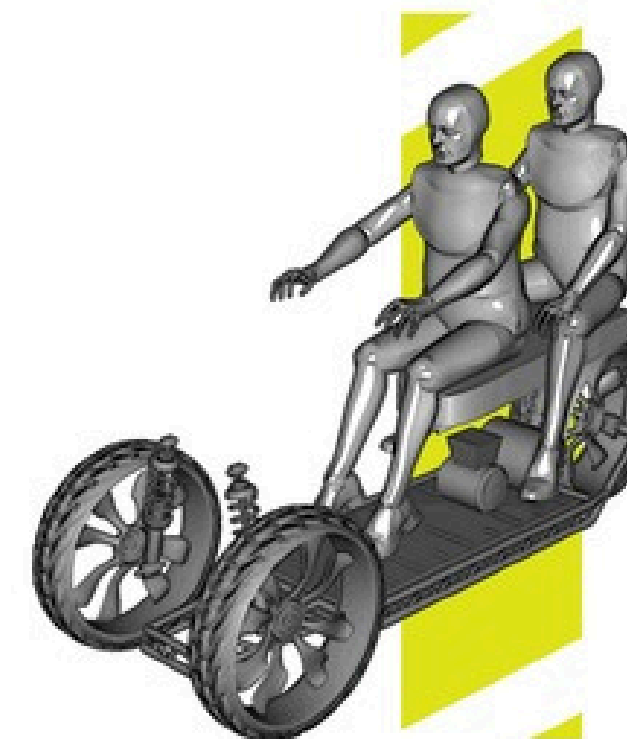


**premium
dynamic**

TADPOLE



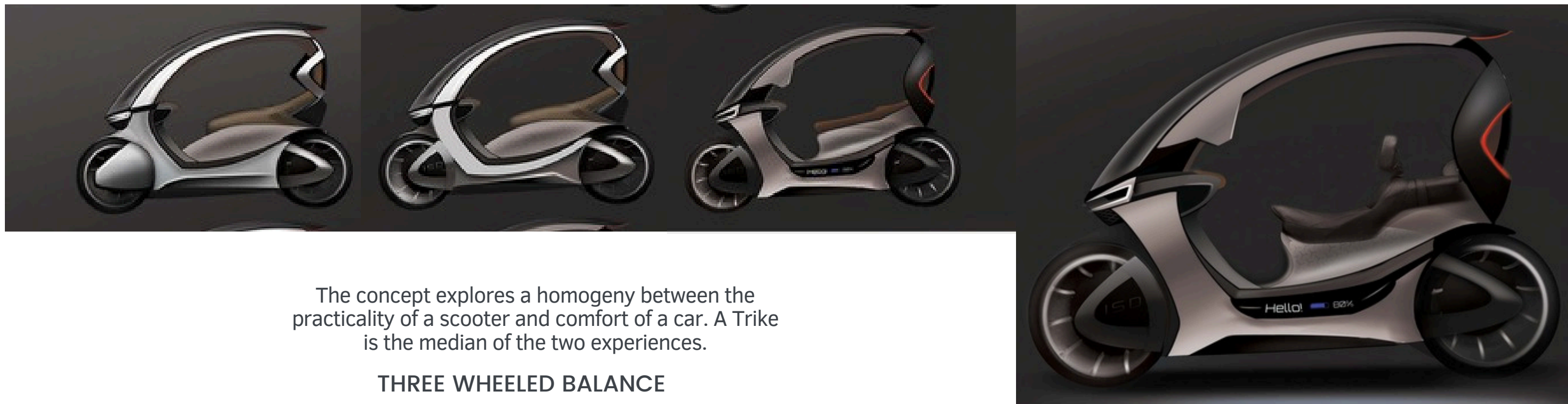
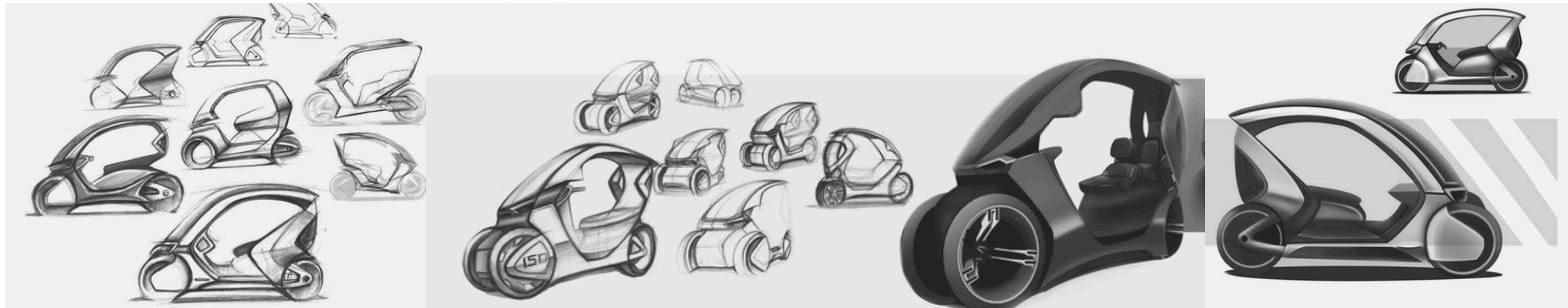
DELTA



Layout & Package

2700mm x 900mm x 1700mm

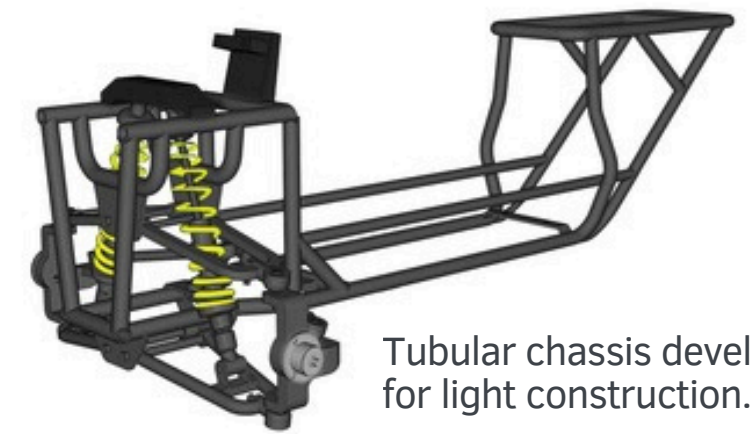
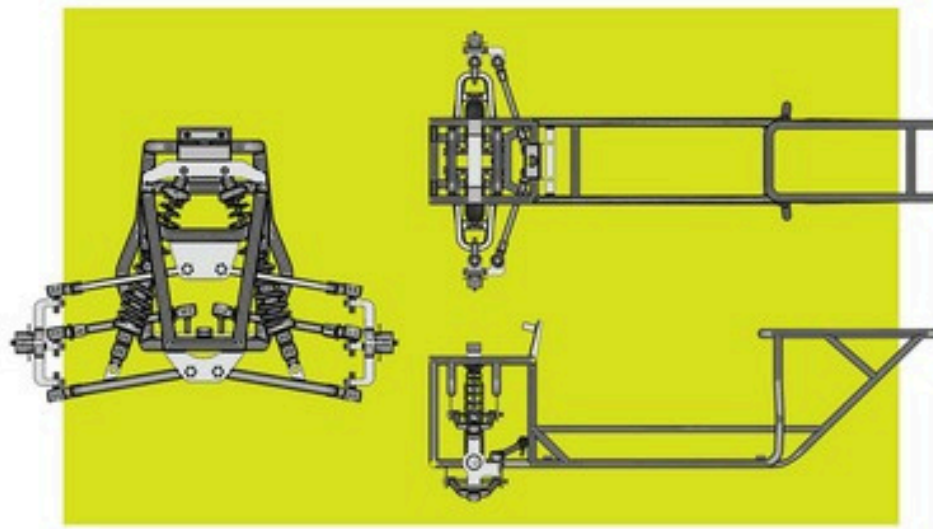
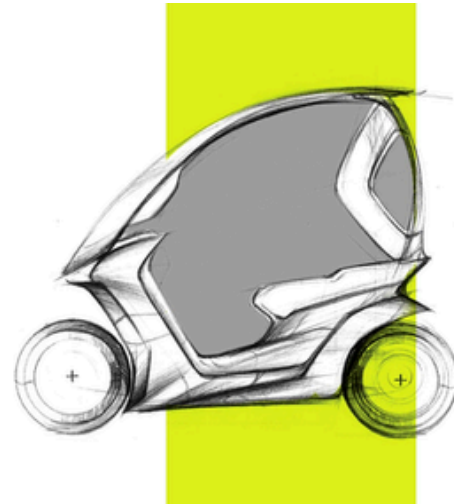
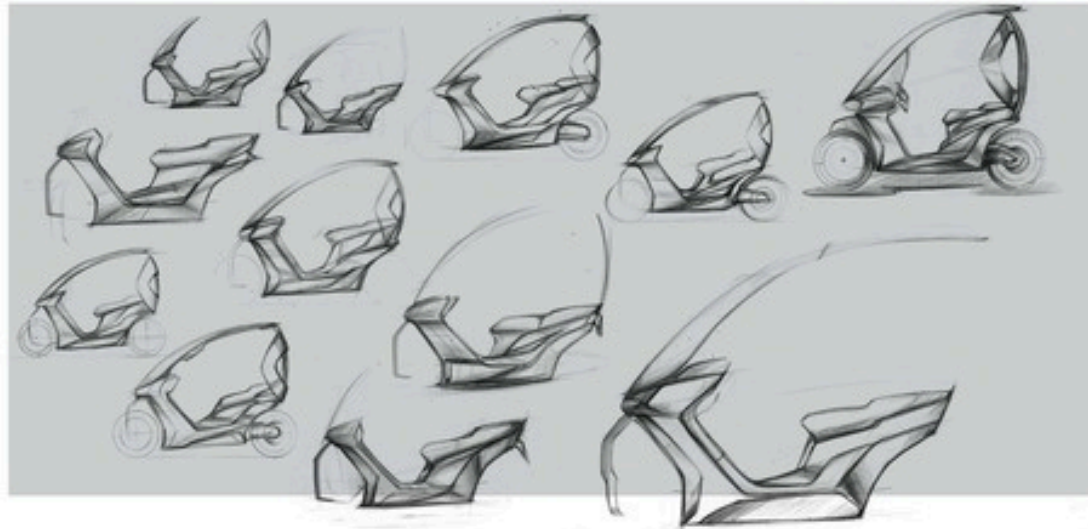
Concept



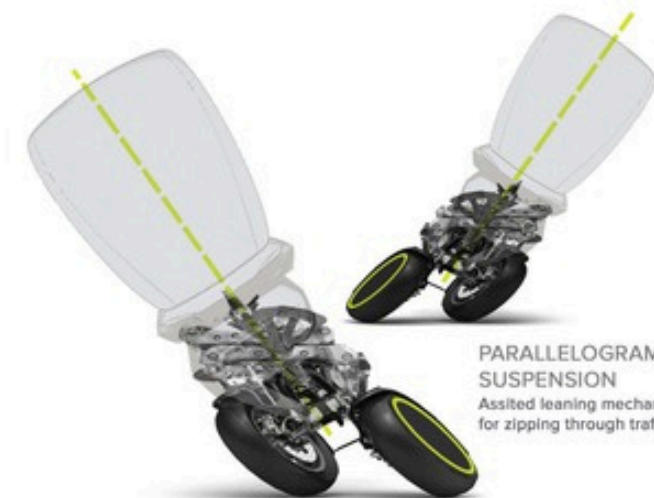
The concept explores a homogeneity between the practicality of a scooter and comfort of a car. A Trike is the median of the two experiences.

THREE WHEELED BALANCE

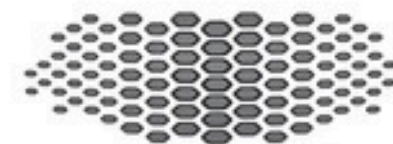
Side view exploration :



Tubular chassis developed for light construction.



PARALLELOGRAM SUSPENSION
Assisted leaning mechanism for zipping through traffic.

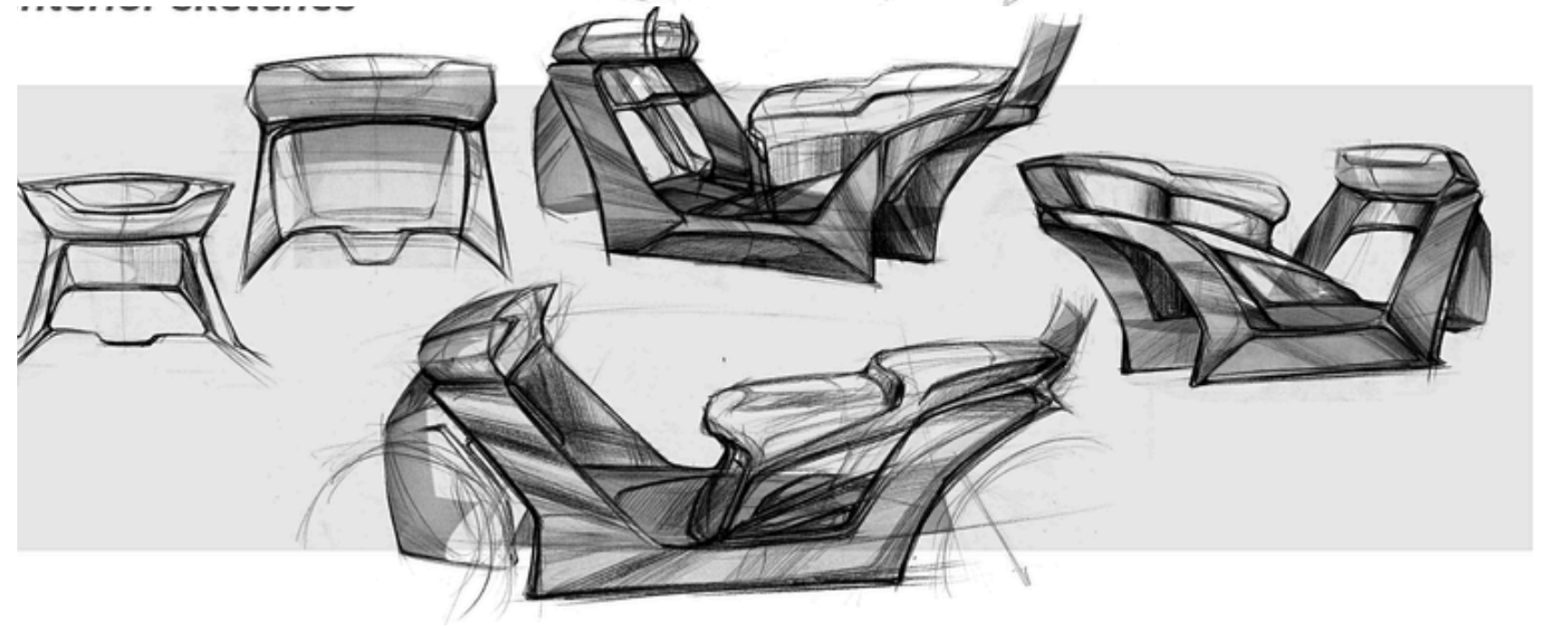
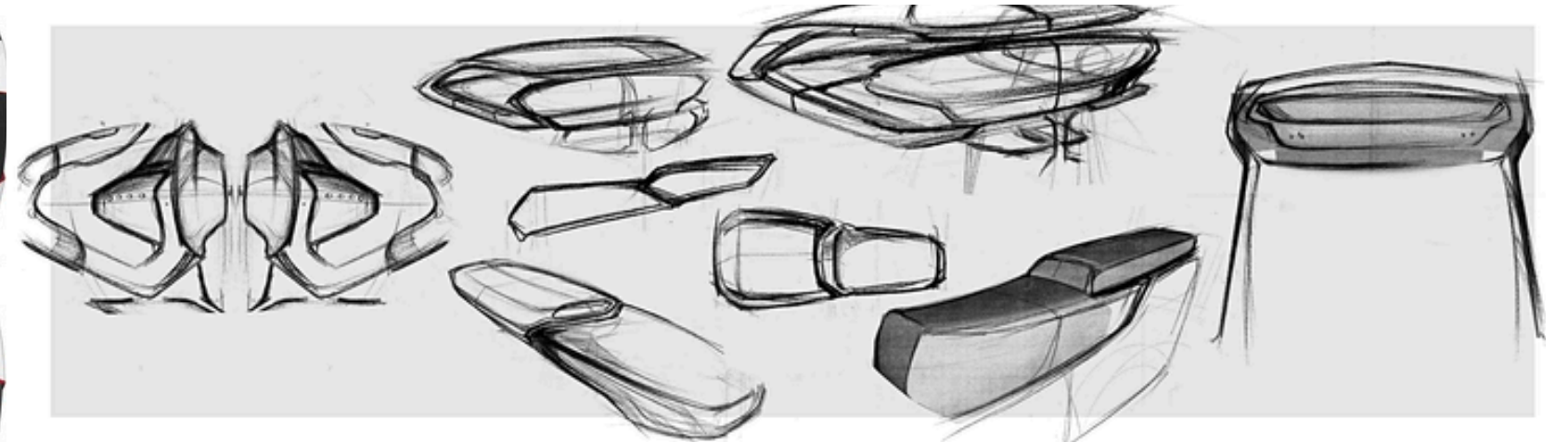
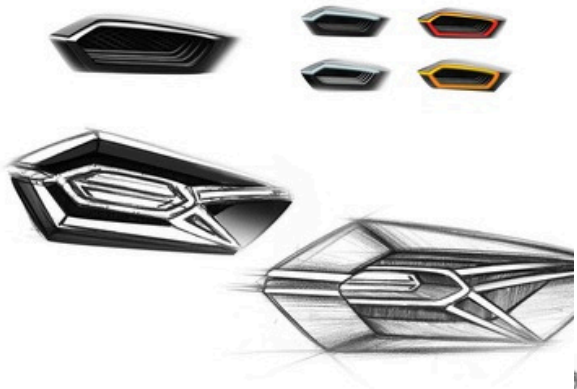
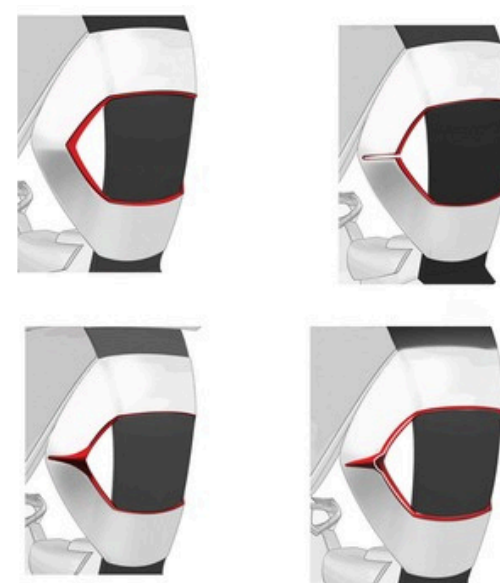
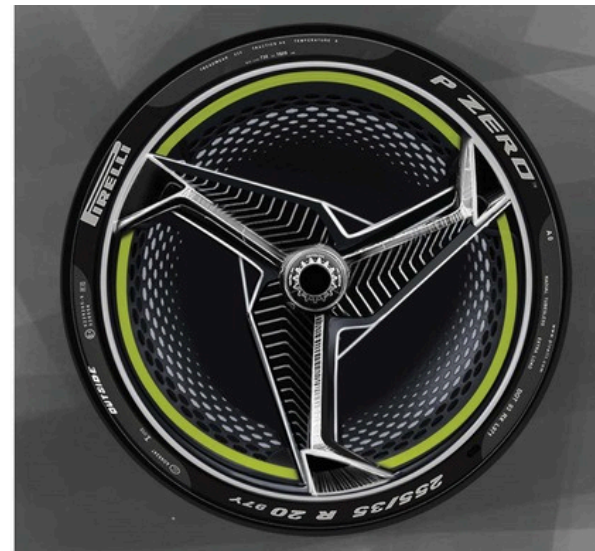


Honeycomb grill pattern

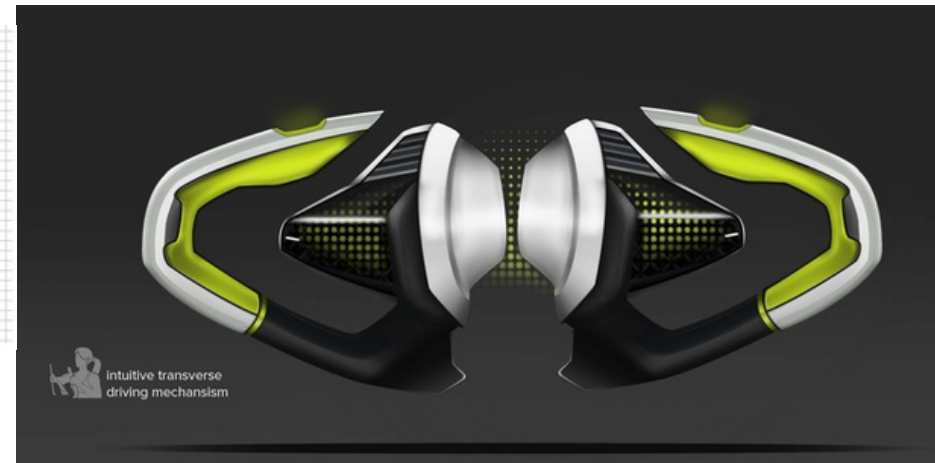
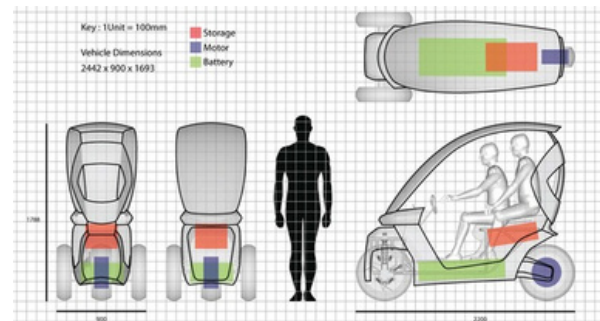
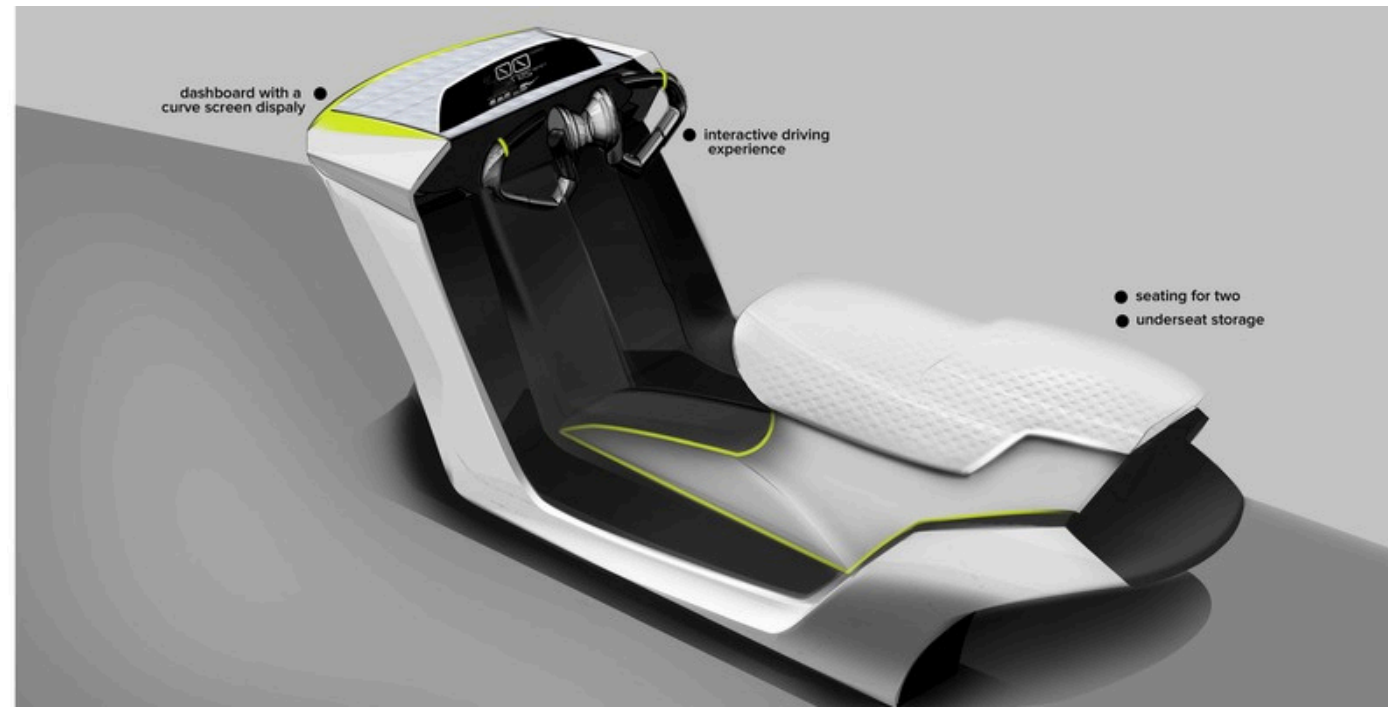


Front cover/bumper for dirt and damage protection.

Interior and some details :

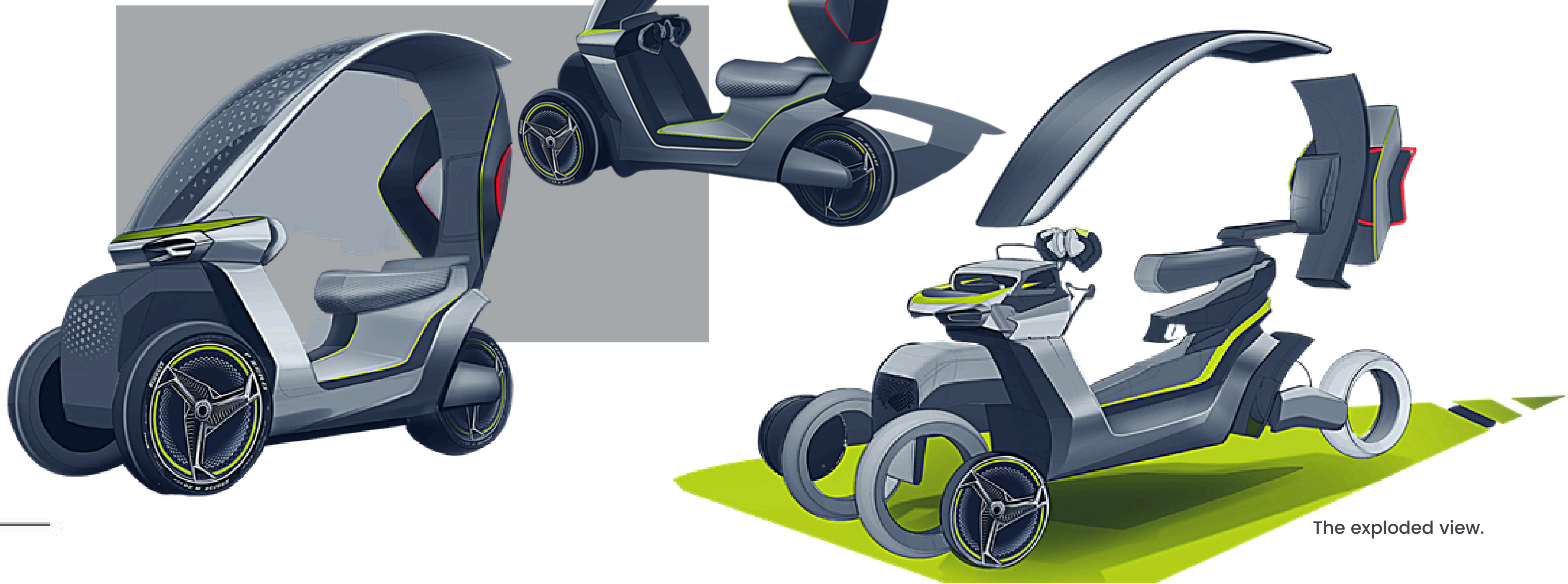


Interior and controls :

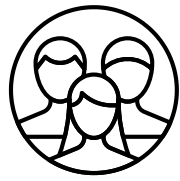


An improved user scenario.

THE PROPOSAL



The exploded view.

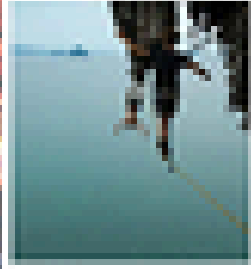
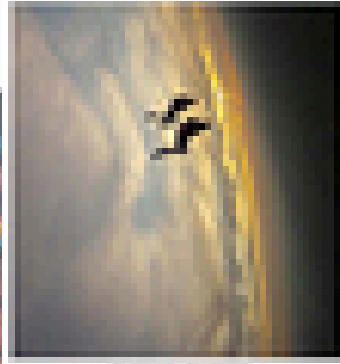


06.

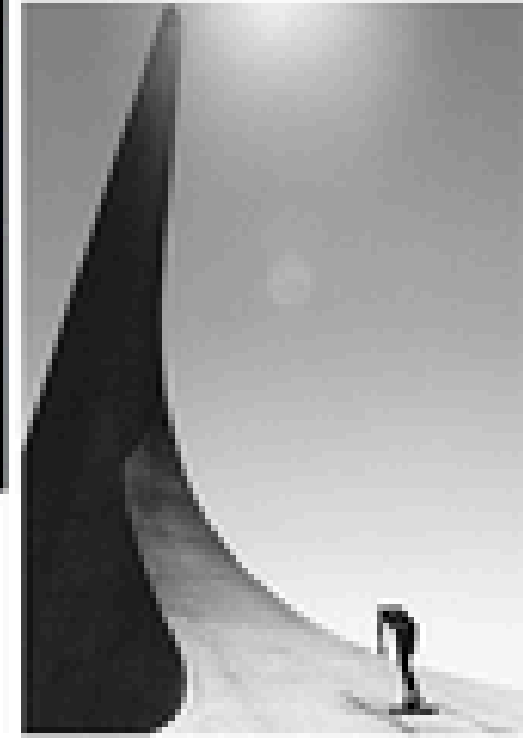
HONDA DAKAR
MOTORCYCLE

Honda's entry at Dakar 2022 with a fresh race
for Dakar and an electric riding platform.





Need to go out of comfort zone for a rush of "adrenaline".



Hormone that accelerates the heart rate inducing the feeling thrill.

stimulation.



Forms that appear light, highlight technical details and feel kinetic.

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xx Social interactions plunge our brains into a hormone cocktail.

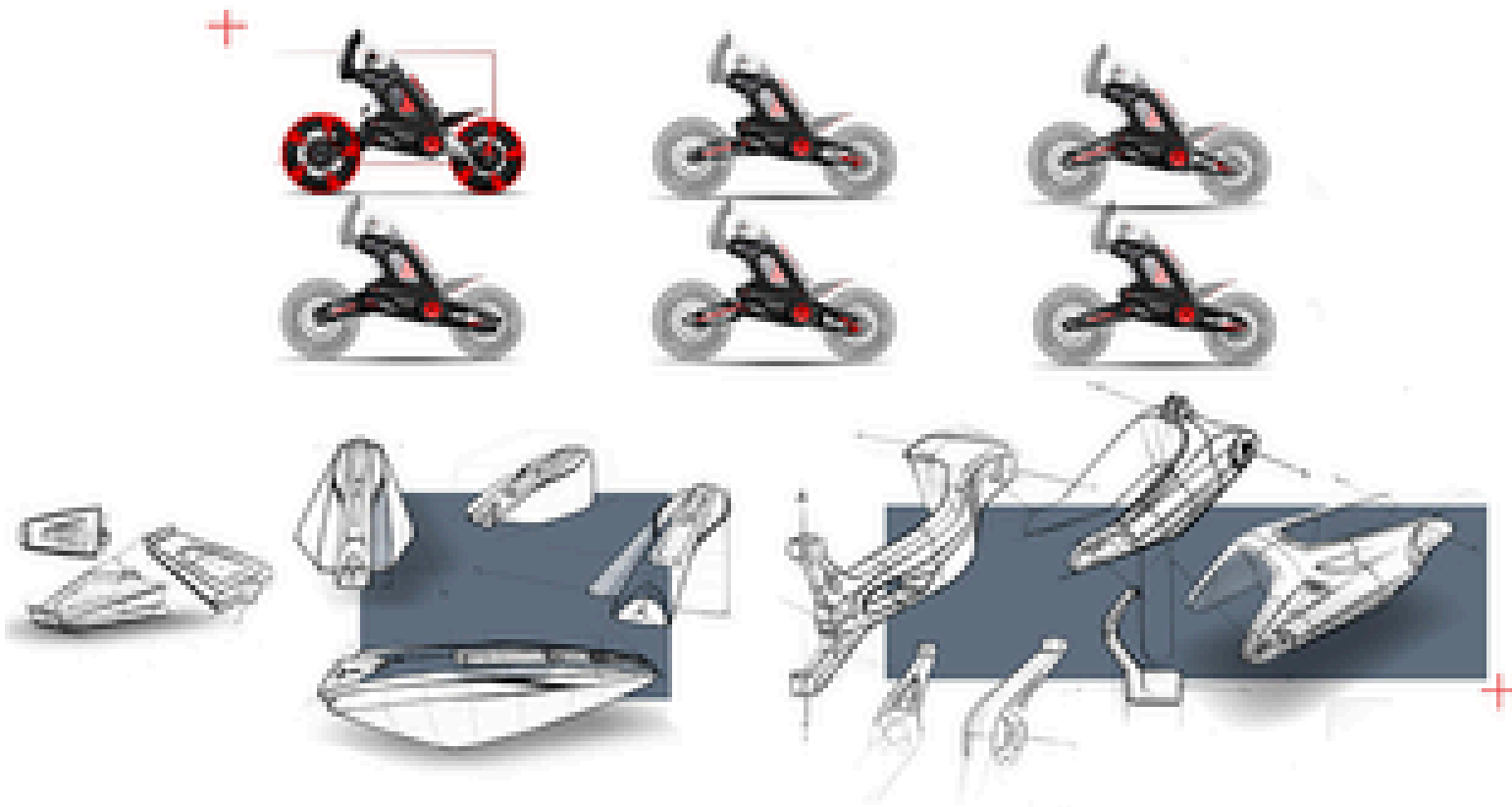


Use of Hydrogen as a fuel as a part of Honda's future green energy initiative!



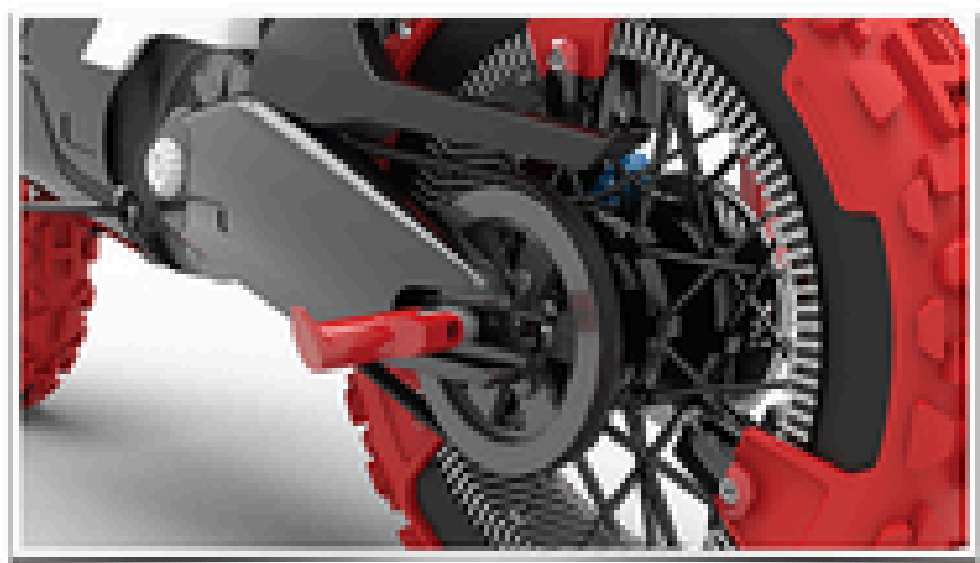
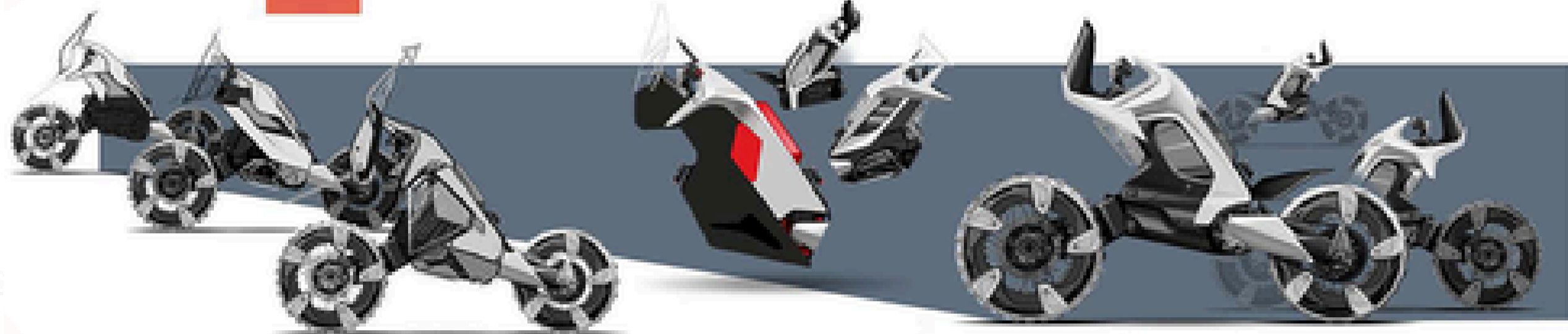
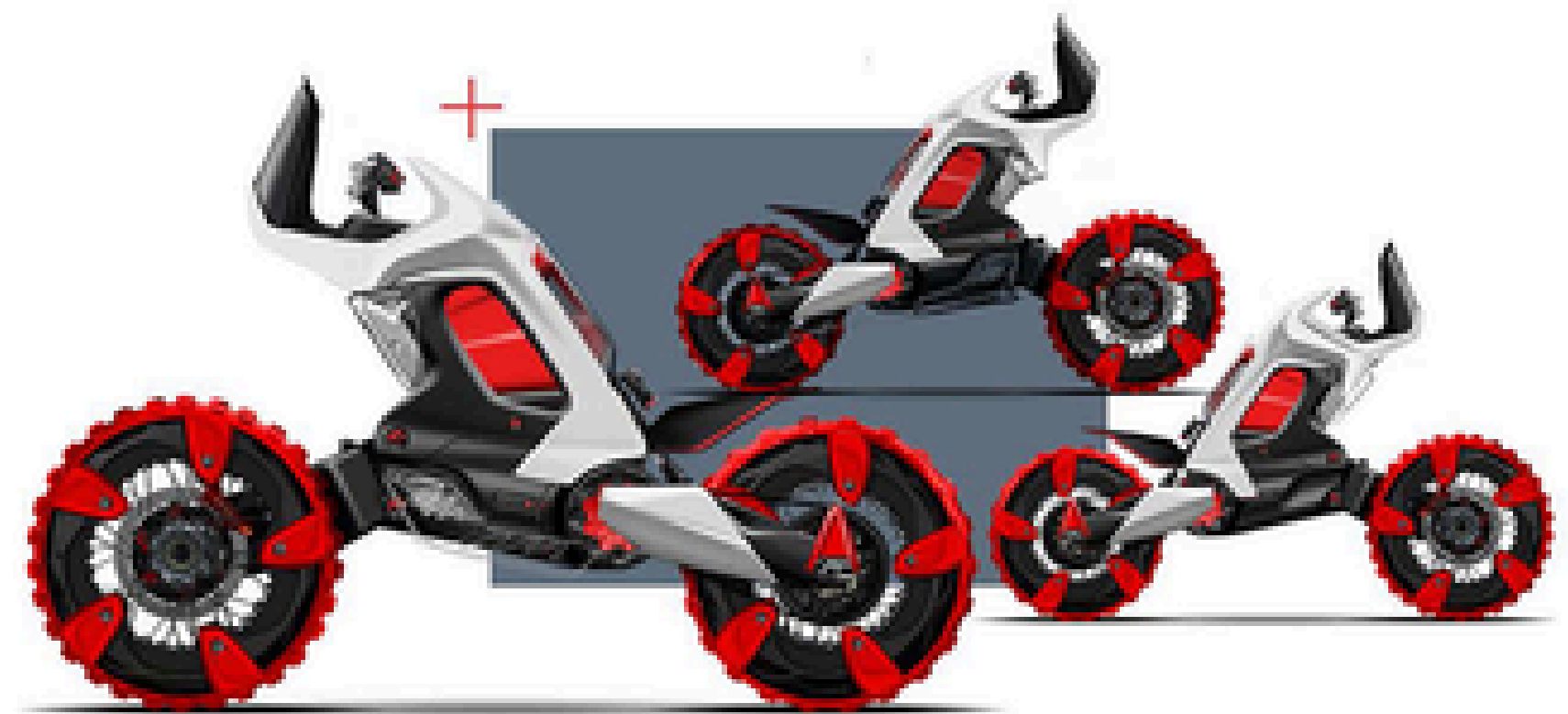
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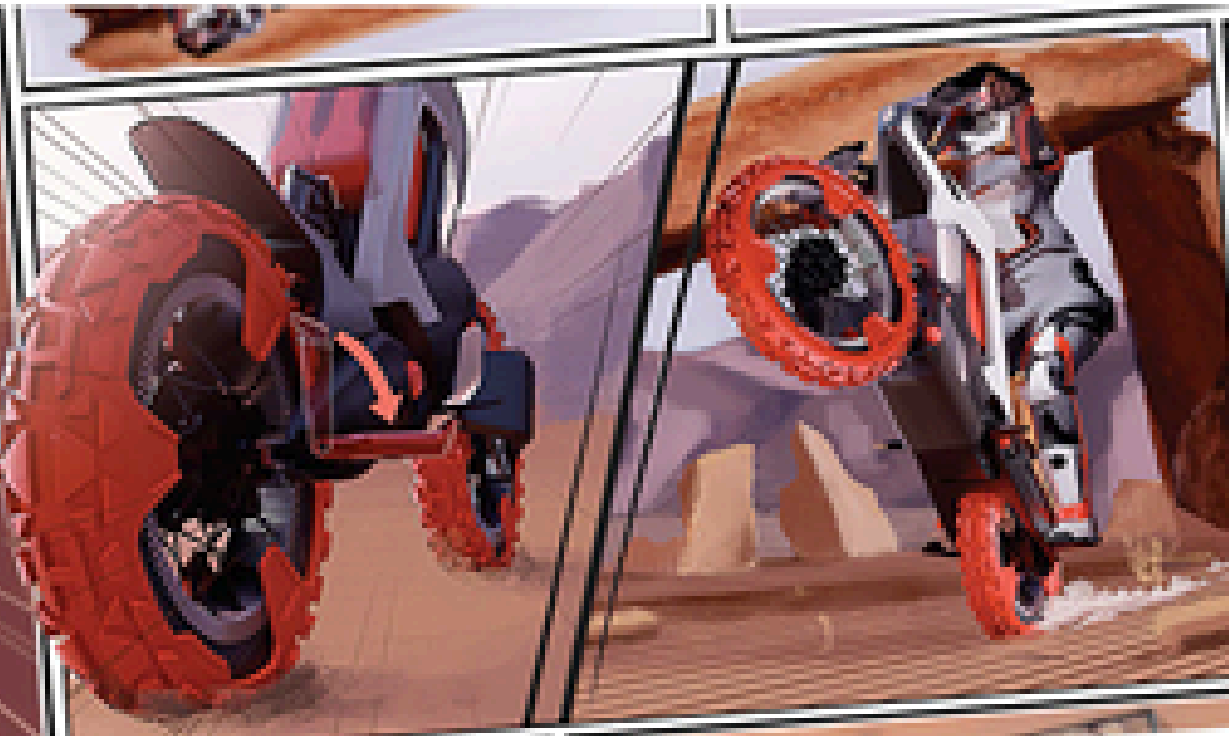
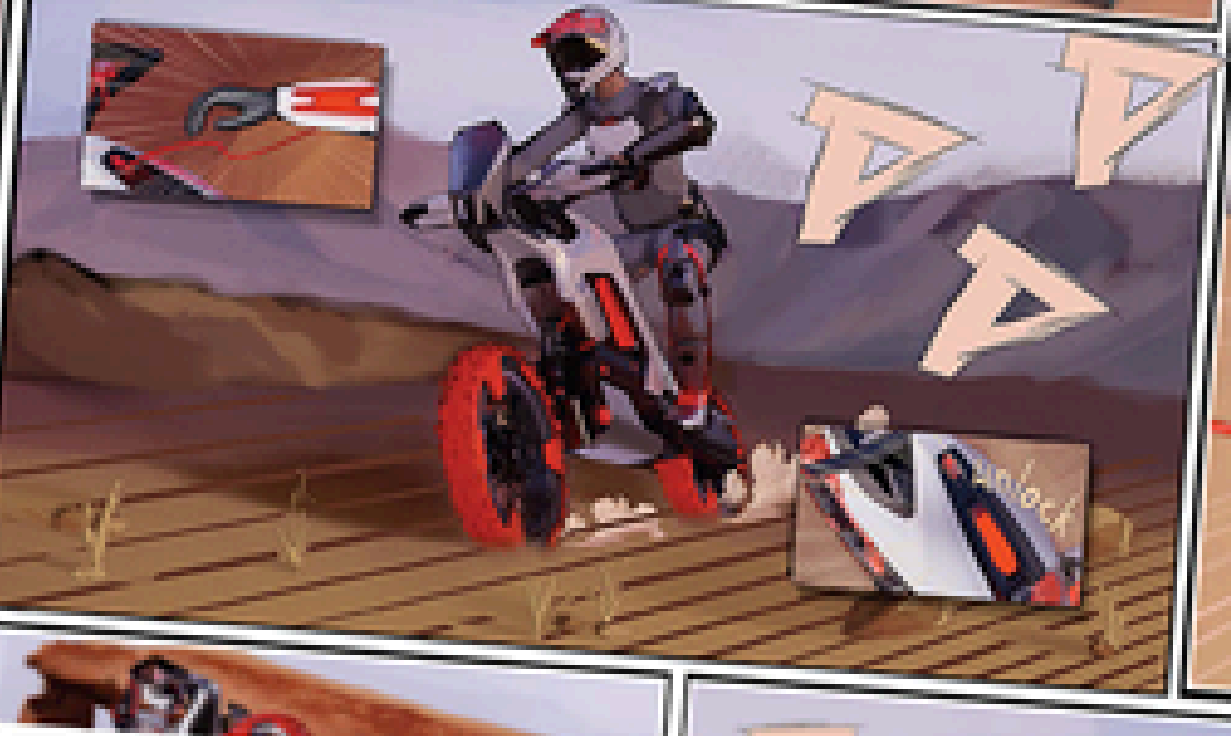


FORM





GLOBAL SCENARIO



TECHNOLOGY

EGGPOY Nylon
Made from spider webs and
specially developed for sports.

3

Carbon

Biomechanical technology allows the user
to move faster with more energy.

4

2

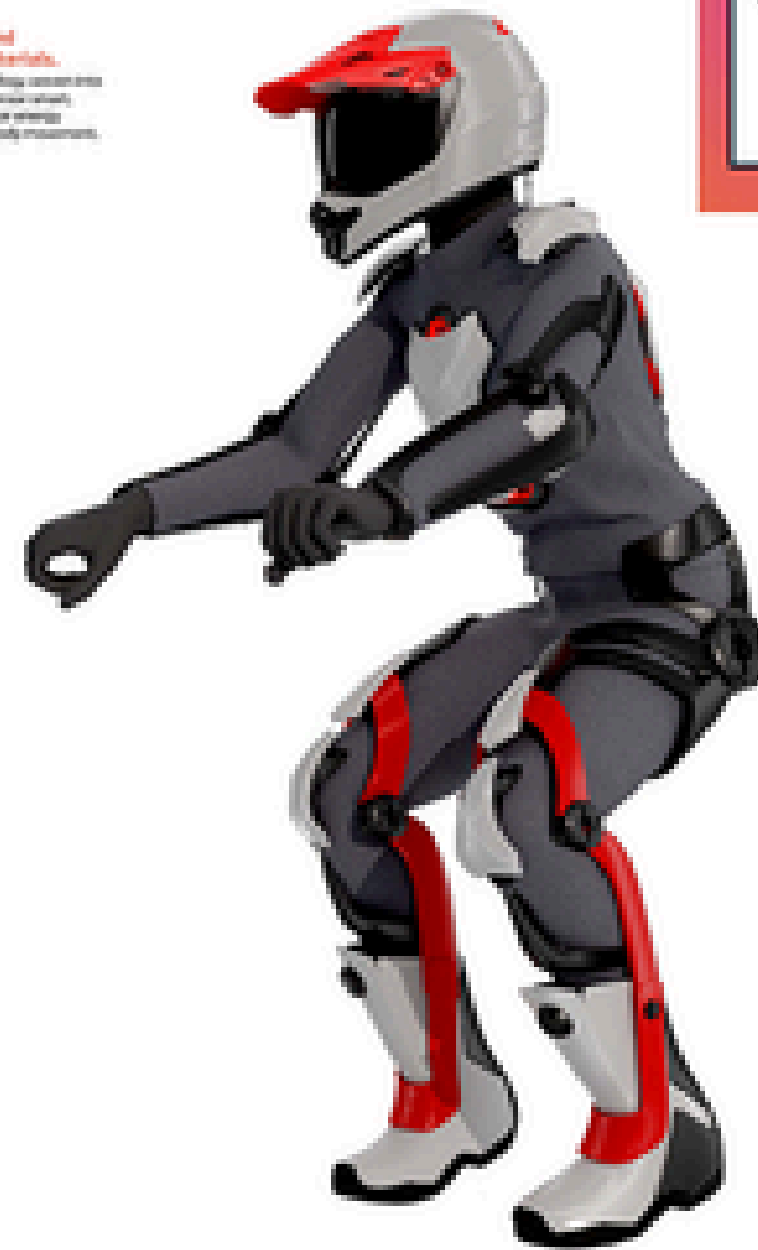
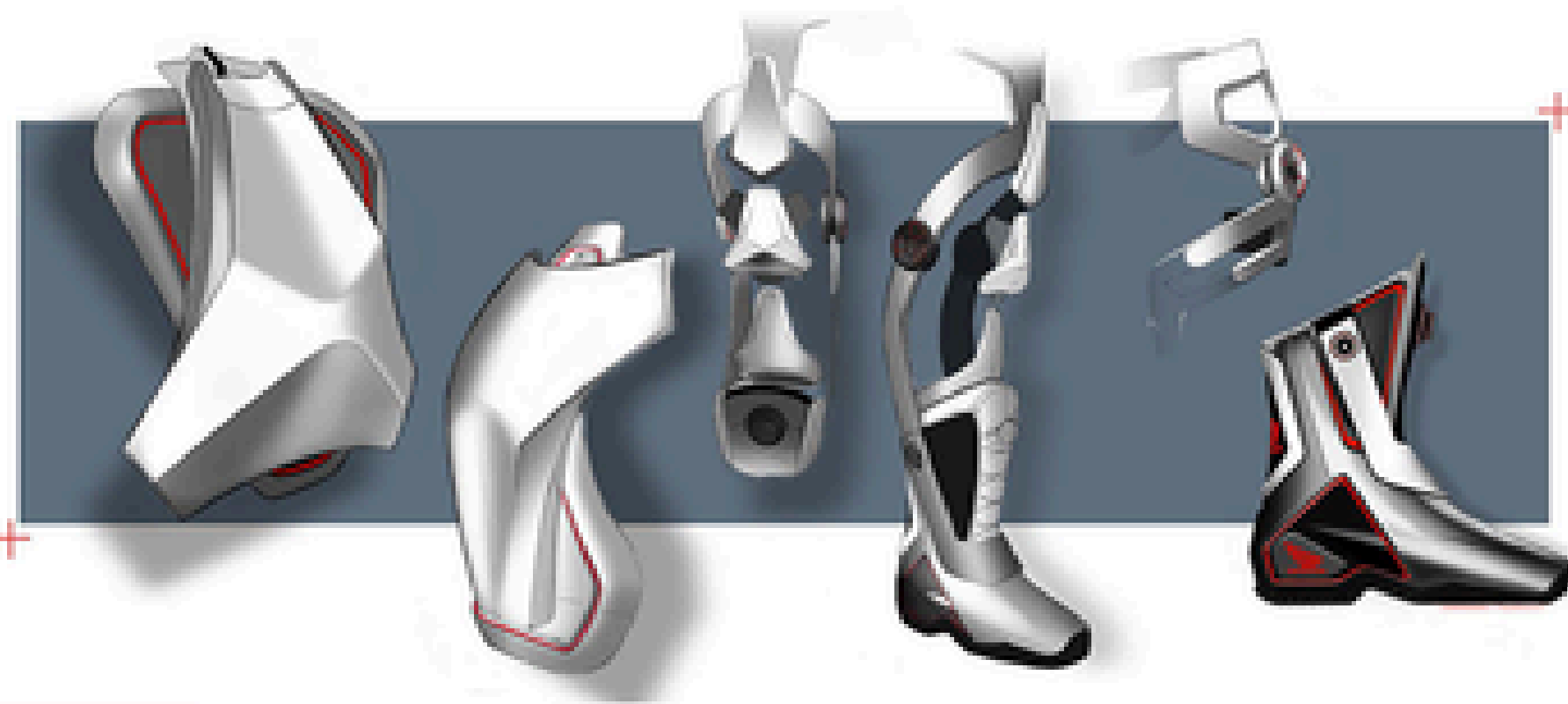
Integrip

Work alongside with feet and
hands/arms.

1

Exocomposites
Designed with development for light,
strong and durable.

**Fluoro-thermally and
piezoelectric materials.**
Light and strong, making them the
ideal choice for the exoskeleton.
Piezoelectric fibers for energy
generation through body movement.



THE EXO



FORZA HORIZON 4





A Featherweight Ather

LIGHT MOBILITY FOR URBAN AREAS



WORK IN
PROGRESS

Ather wants to expand its portfolio to cater to **working professionals** in **urban India** who want the *flexibility of private transport* but find cars and even regular two-wheelers inefficient and irrelevant. As Tier 1 cities get more **crowded**, mobility has started taking new forms in India, and Ather would like to be at the forefront of this revolution. This is a large, growing segment of potential customers.

This vehicle occupies **the space between a bicycle and a light motorcycle** allowing customers to **decide which roads or routes** they want to travel through an urban area. They have all the flexibility possible, at the same time as **turning the pedals and keeping themselves fit**. The modes and clever route selection are intended to make it one of the fastest travel options through a city.

Ather envisions this vehicle as an attractive means of transport for the future in larger (Tier 1) cities.

03

Areas of Focus

ease of use

narrow "shoulder room"
choice of route
skim through traffic
riding triangle

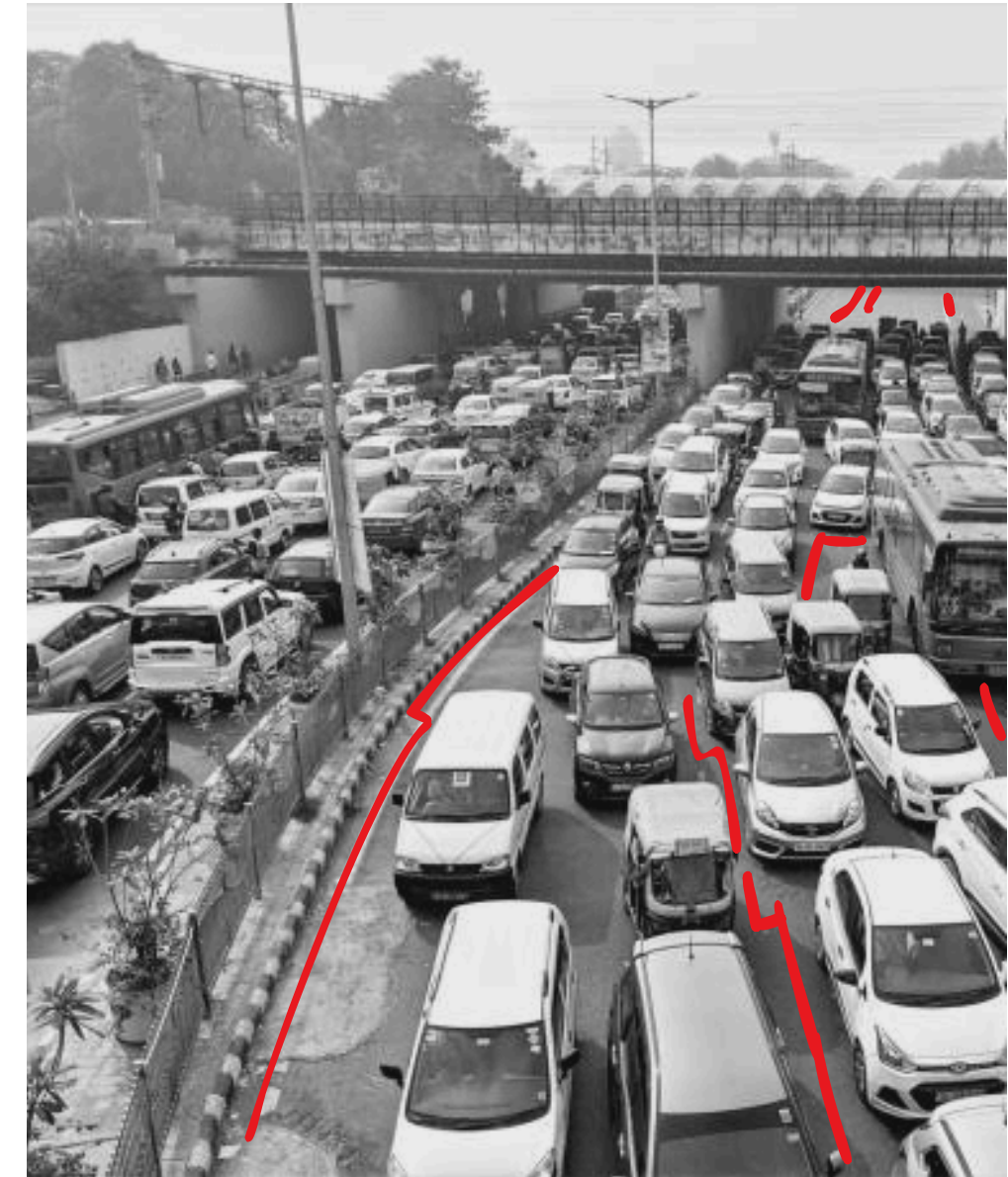
GAP LANE*
TWO WHEELER

health

flex your muscles
when you want /
a *good* morning
experience

flexibility

choose easy commute /
pedal for fitness



PRODUCT DEFINITION

In the Gap Lane

As a mid-segment two-wheeler, built with **flexibility of pedal use**, TVS XL was designed to meet the needs of rural India with sparse petrol pumps.

Step-through allows for use across ages and genders, making it **accessible**.

It also adds to the room for cargo, making it **diverse**.



Wheel Size	F16/ R16
Handlebar Height	1031 mm
Seat Height	785 mm
Wheelbase	1222 mm

The XL is quite "flexi", I'd even say multi- purpose.

Originally designed for rural use, it serves the user with choices; albeit it's hardly urban-looking. The low step-through detracts from the *dynamic* appeal of a cycle and / or motorcycle.

PRODUCT DEFINITION

Urban Formats /



BAJAJ FREEDOM

Motorcycle leaning format /
Riding triangle and seat height are
appropriate amongst other motorcycles.
Pedal assist not available.



BMW CE02

"Ambiguous" mobility format /
Accessible seat height, unique form factor,
Comfortable riding triangle for commute.
Pedal assist not available.



BMW MOTORRAD AMBY

Experimental fat bike leaning format /
Unique form factor, commanding riding
triangle.
Built with pedal assist.



BMW I-VISION AMBY

Electric pedelec format /
Bicycling riding triangle. Fitness oriented.
Light, *specially for an electric 2W*.
Built with pedal assist.

Chosen to address a variety of architectures, as well as
span the use cases from cycling to motorcycling.

PRODUCT DEFINITION

The Architecture /

BAJAJ FREEDOM

Tyre Size	F17/ R16
Handlebar Height	1000 mm
Seat Height	825 mm
Wheelbase	1340 mm

BMW CE02

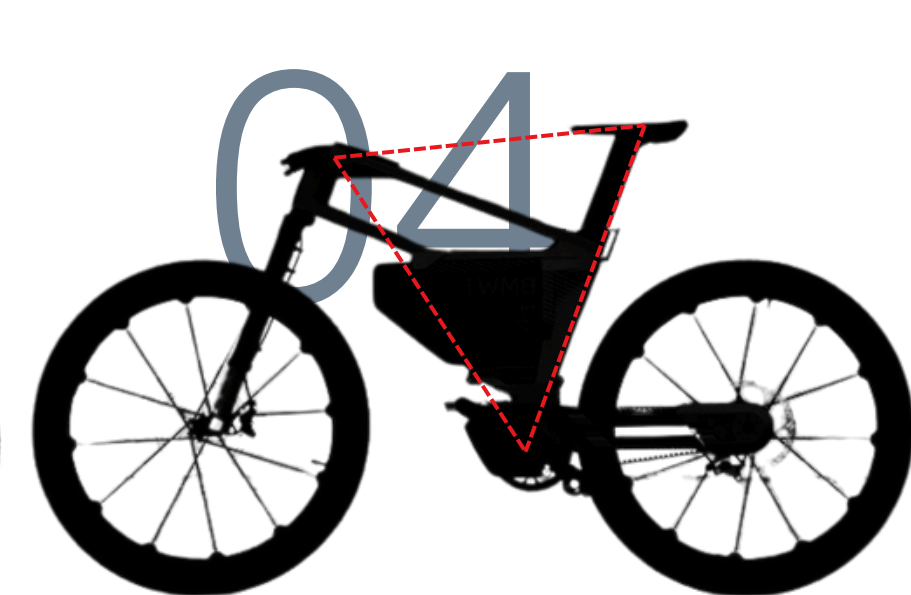
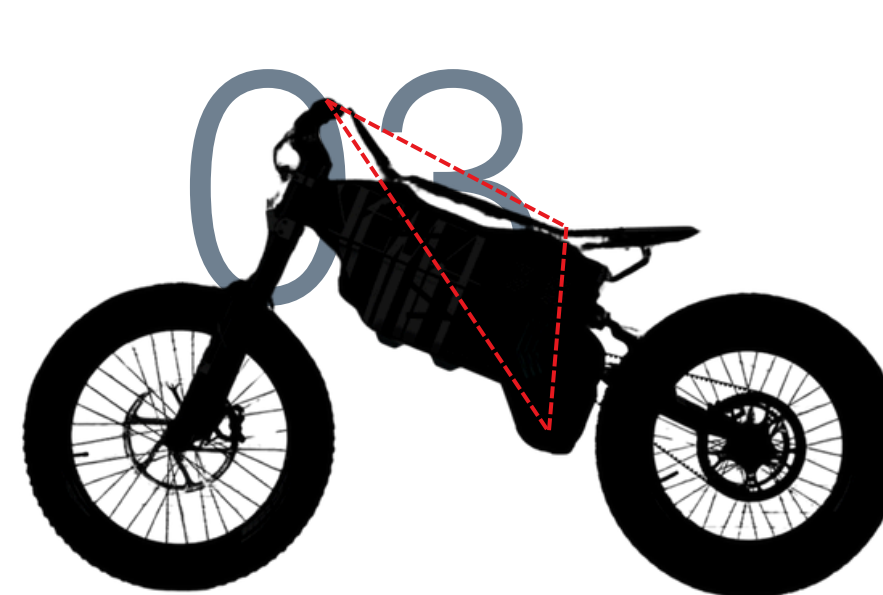
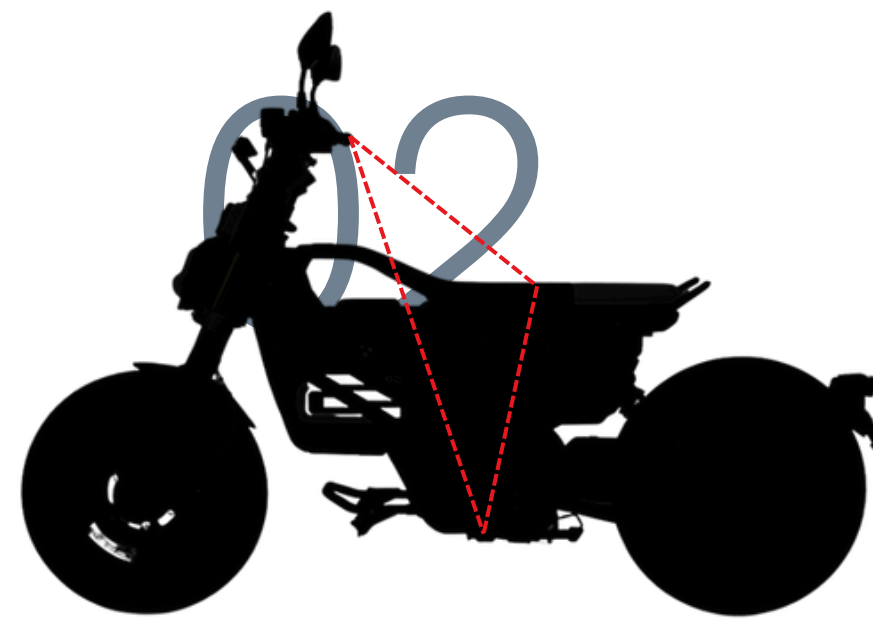
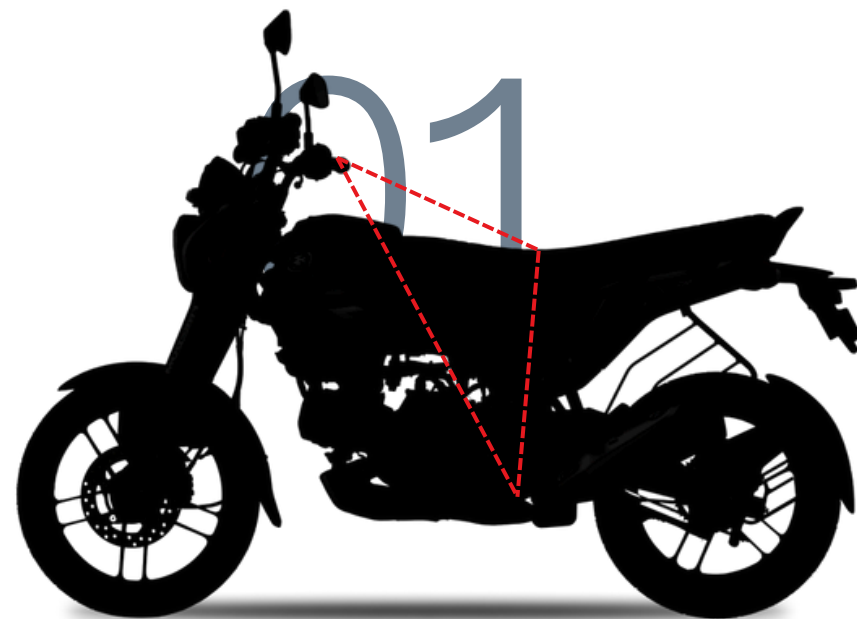
Tyre Size	F14/ R14
Handlebar Height	1140 mm
Seat Height	745 mm
Wheelbase	1351 mm

BMW MOTORRAD AMBY

Tyre Size	F26/ R24
Handlebar Height	~1100 mm
Seat Height	830 mm
Wheelbase	1160 mm

BMW I-VISION AMBY

Tyre Size	F 27.5/ R 27.5
Handlebar Height	~925 mm
Seat Height	~980 mm
Wheelbase	1160 mm

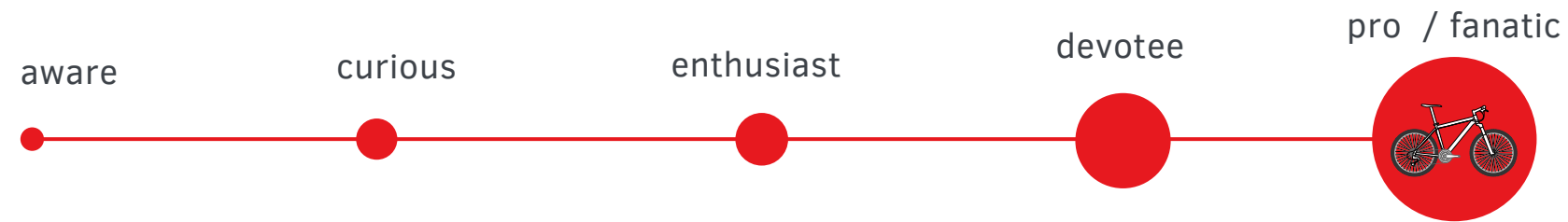


It's possible to play across wheel sizes, seat height, foot position - both pedal and resting, and an overall split of geometry.

This would also impact the range of the vehicle, based on the area available to package batteries.

PRODUCT DEFINITION

Appeal / Concerns



SPECTRUM OF THE 'CYCLING BUG'

Comfortable riding position, very suitable for daily commute.

Does not fit a cycling experience. Offers ease of use, but not great for pedal.



Comfortable commuting position. The raised handlebar feels commanding.

Seat height is low for active riding style, not best for pedaling. Foot rest suggests a suitable pedal-wheel position.



Accessible seat height, with a cycling stance. Riding triangle allows for an engaging cycling experience.

Low seat height compared to Road Bike geometry, not too challenging for daily commute.



Authentic cycling rider's triangle. Dynamic, made for fitness. Seat height is low, demanding an active riding style. For daily commute to the workplace, this stays more geared towards cyclists.

It's an opportunity to peak the interest of certain users from the spectrum of the Cycling Culture.

PERSONA

yash

32 / M / UX Designer

Usual 9-5 routine
Distance: 10.1kms

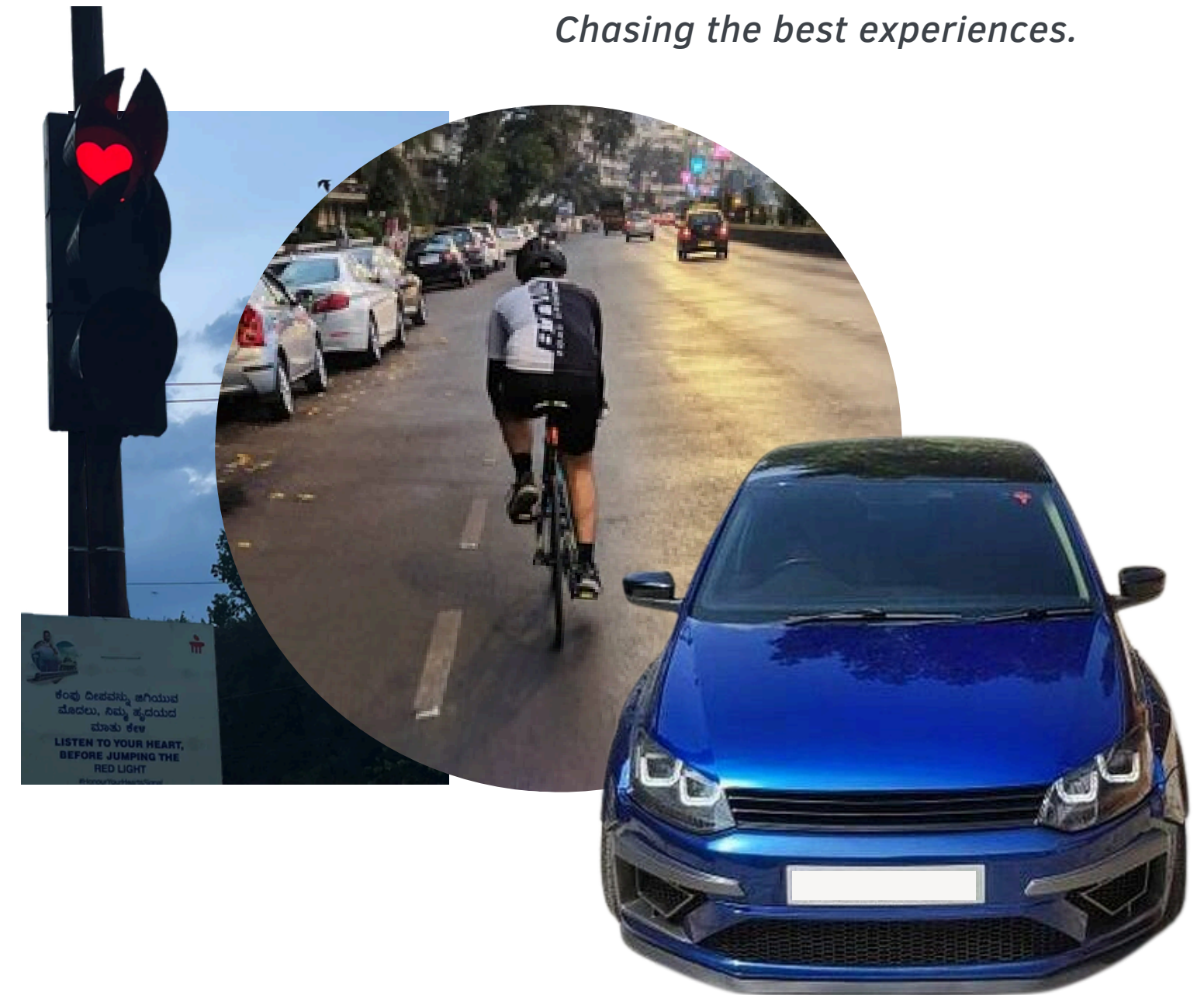
Connection with cycling,
began while growing up in
Mumbai. Now, it's his zen.

Driving is a passion, second-hand
Polo, modified to his liking.

Mech and tech are his extended
passion. Always eyeing the next one
on the market.

Works in BLR, driving feels like
tough love.

Chasing the best experiences.



PERSONA

maria

24 / F / VFX Artist

Usual 9-5 routine

Distance: 7 kms

New city, new life.
I'll build it my way.

Want to know what's there to do,
see and try - scene in the city.

Exploring the city in my free time,
make and change plans.

Auto-hailing apps, drain all my
phone battery, and still no rides
during office hours.

Living her second childhood.



aware

THE 'CYCLING BUG'

PERSONA

rakesh

41 / M / Startup COO
Work Life 24 x 7
Distance: 5kms

Health comes first, everything else follows.

Startup to grow, an unpredictable schedule, but can't skip fitness goals.

Always looking to optimize-do more in less time.

Cycling to commute would help get some cardio in for the day.

Live till the age of 100, and then some.



curious

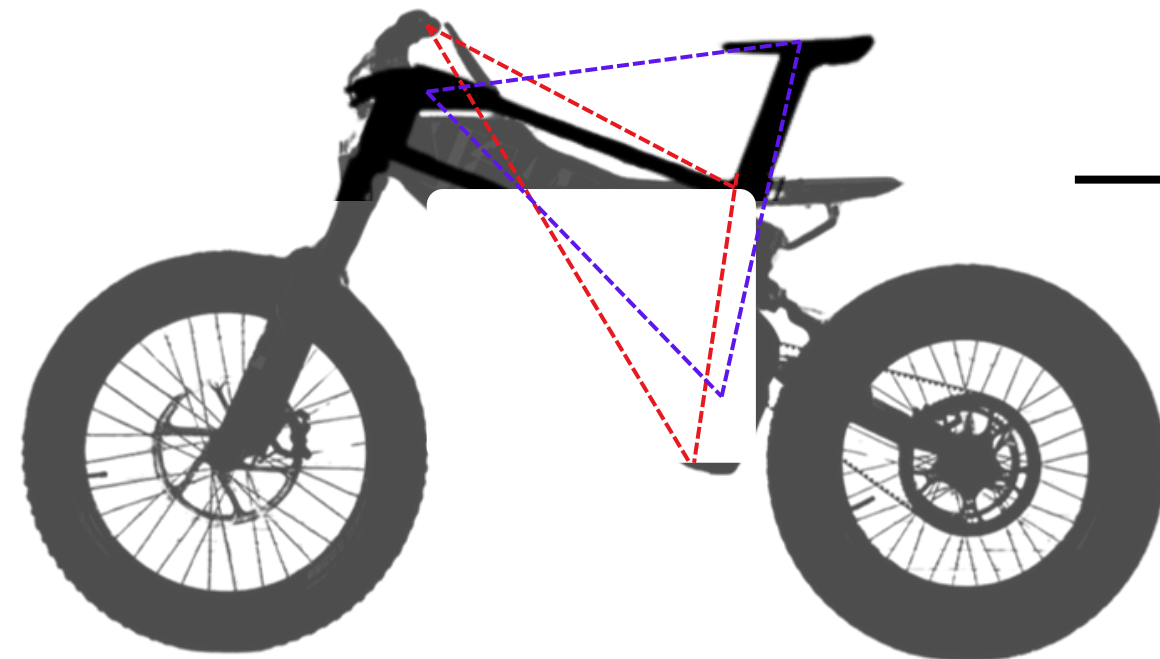


THE 'CYCLING BUG'

CONCLUSION

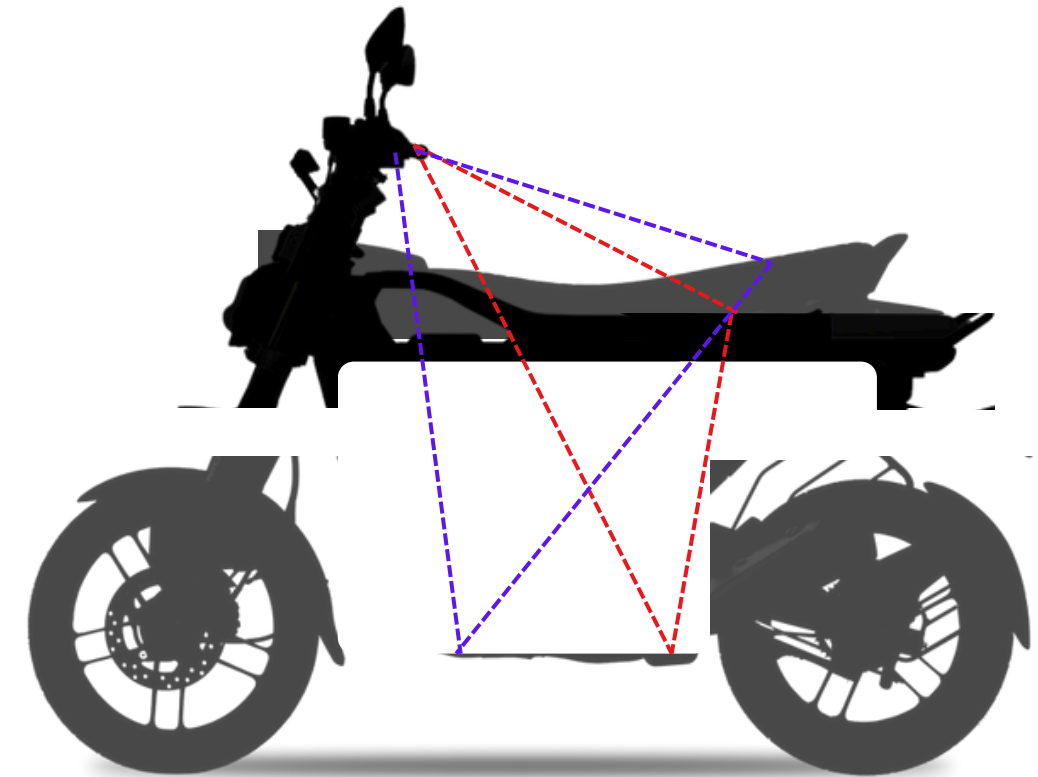
Product Definition/

Ather plays the role of an enabler, bringing choice to the table.



70/30

SPECTRUM OF THE 'CYCLING BUG'



theme 01

Focused on a Cycling inspired approach.

Wheel Size
Handlebar Height
Seat Height
Wheelbase

F14 to 27.5 / R14 to 27.5
925 to 1140 mm
745 to 980 mm
1160 to 1340 mm

theme 02

Focused on a Commute-first approach.

Long-distance cycling would be easier with the help of a battery-powered layout. Cyclists would be less dependent on taking cars to haul the cycles.

Mood Board /



continuous



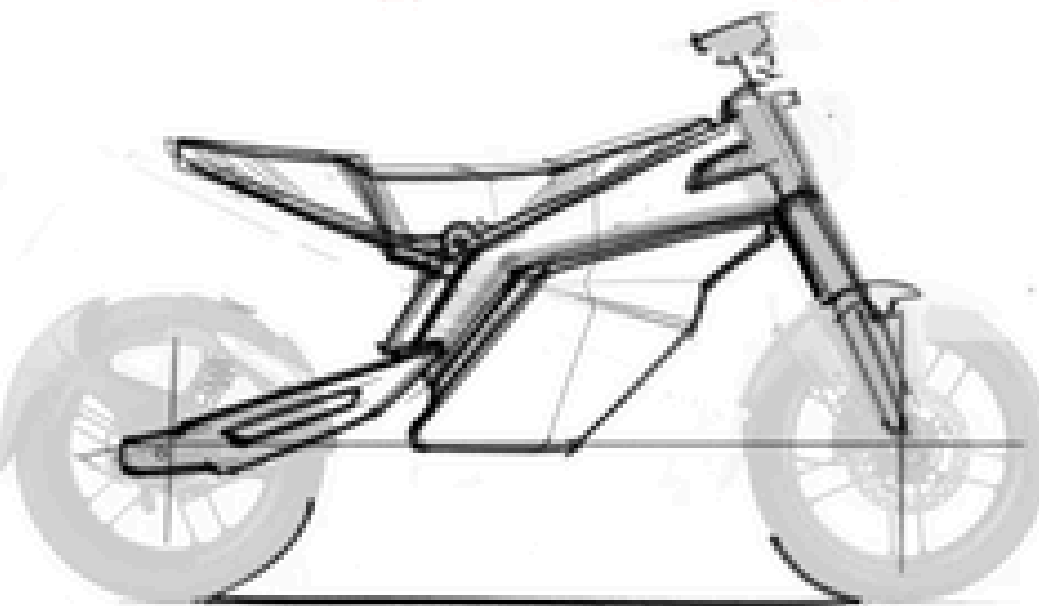
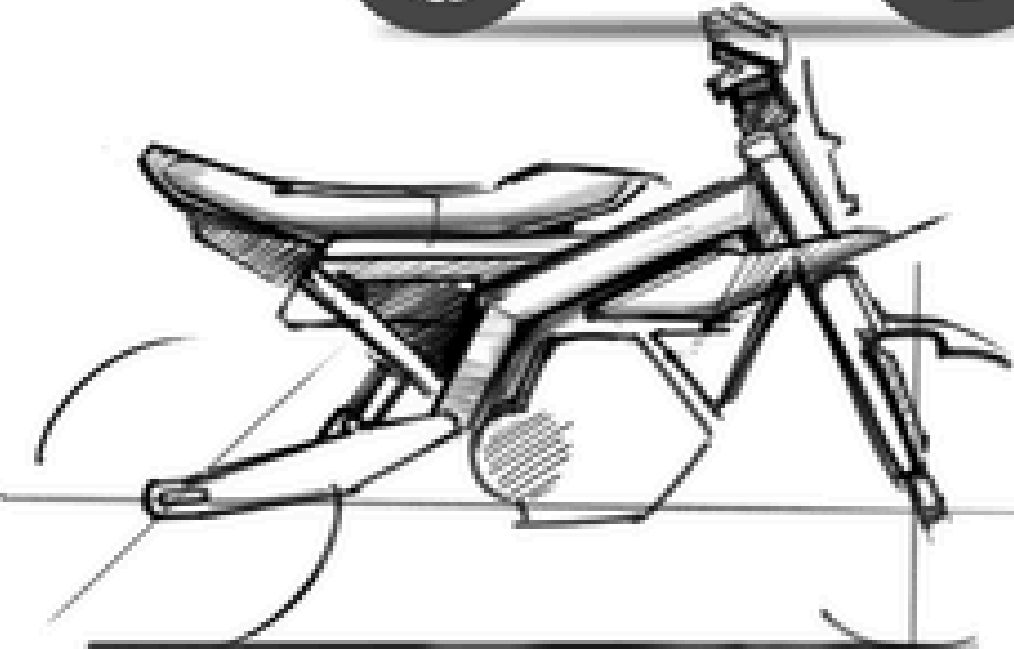
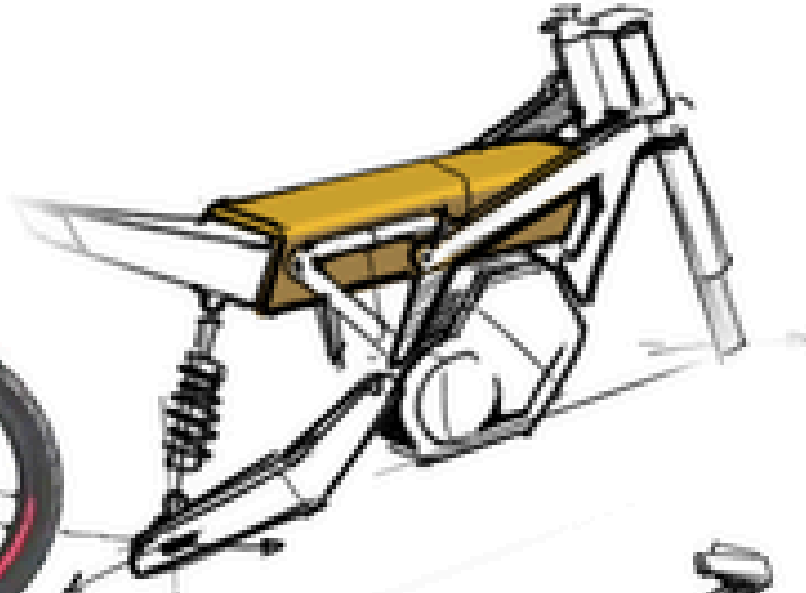
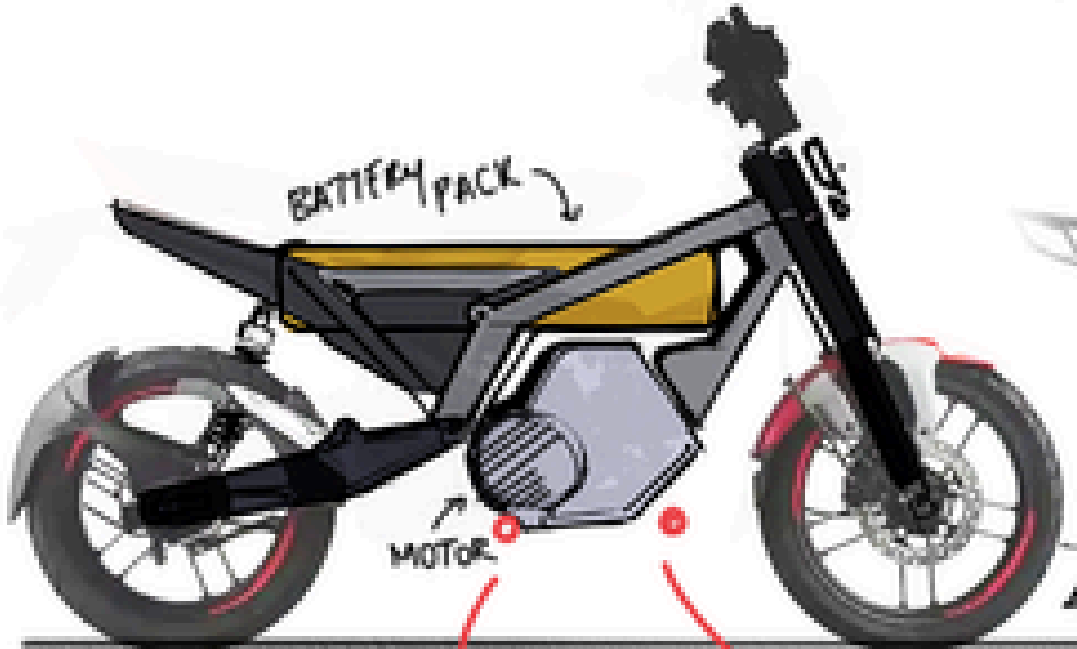
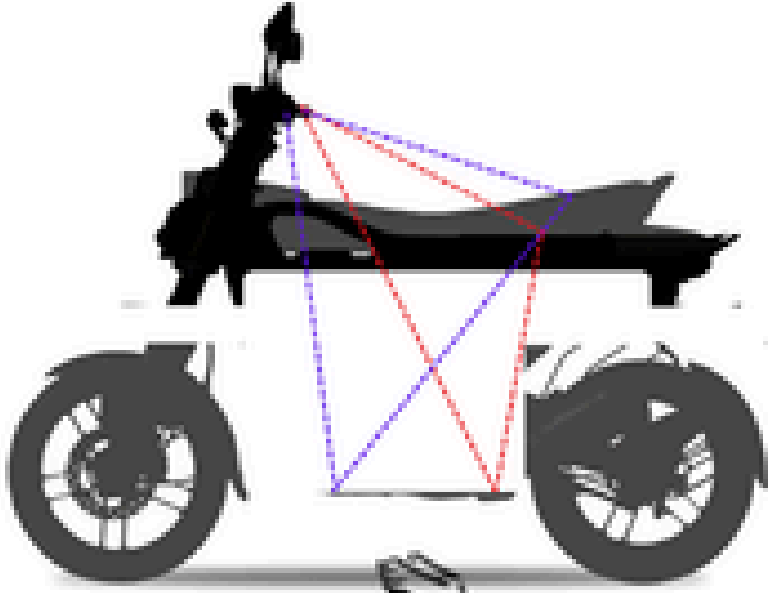
structured



mixed



theme
/01



theme
/01

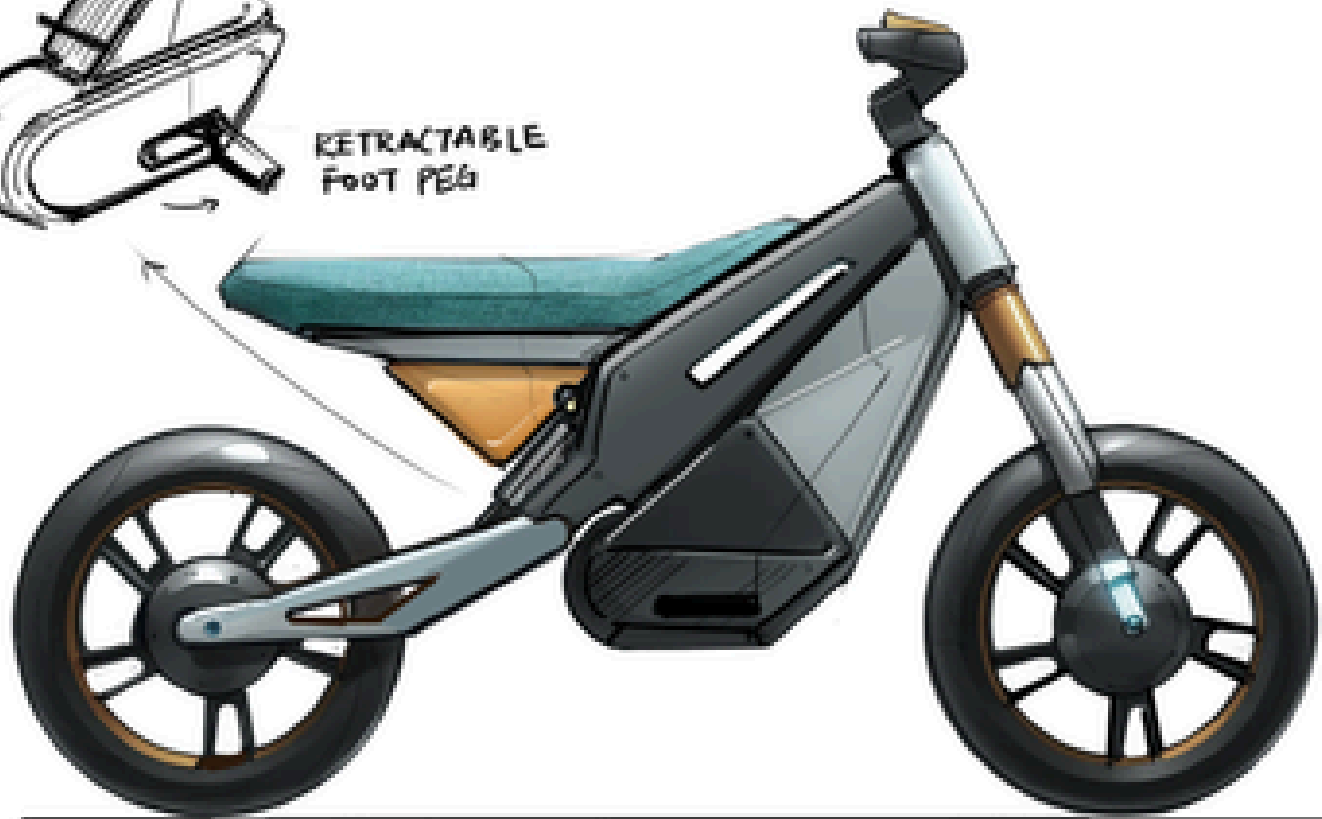


↓ PEDAL

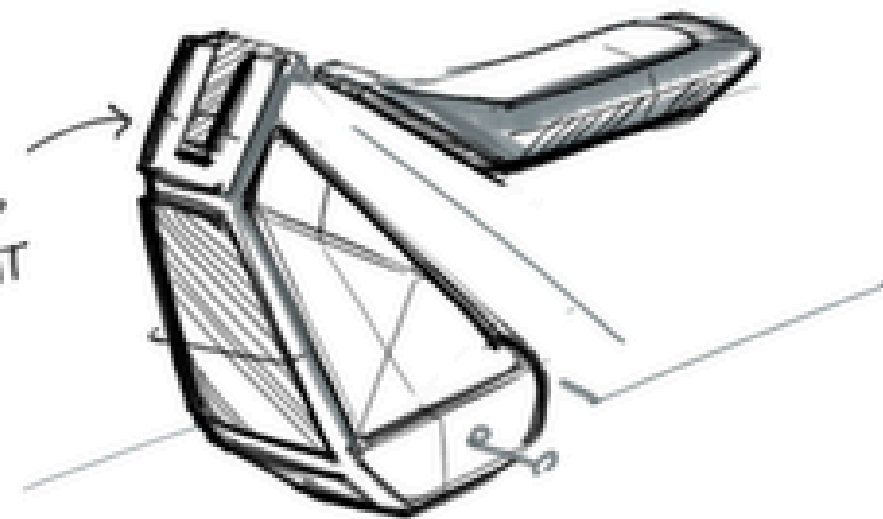
o FOOT PEG



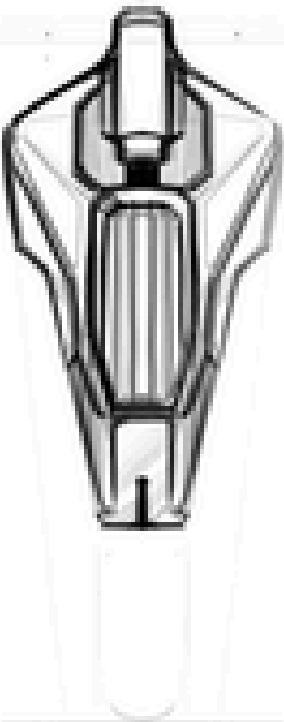
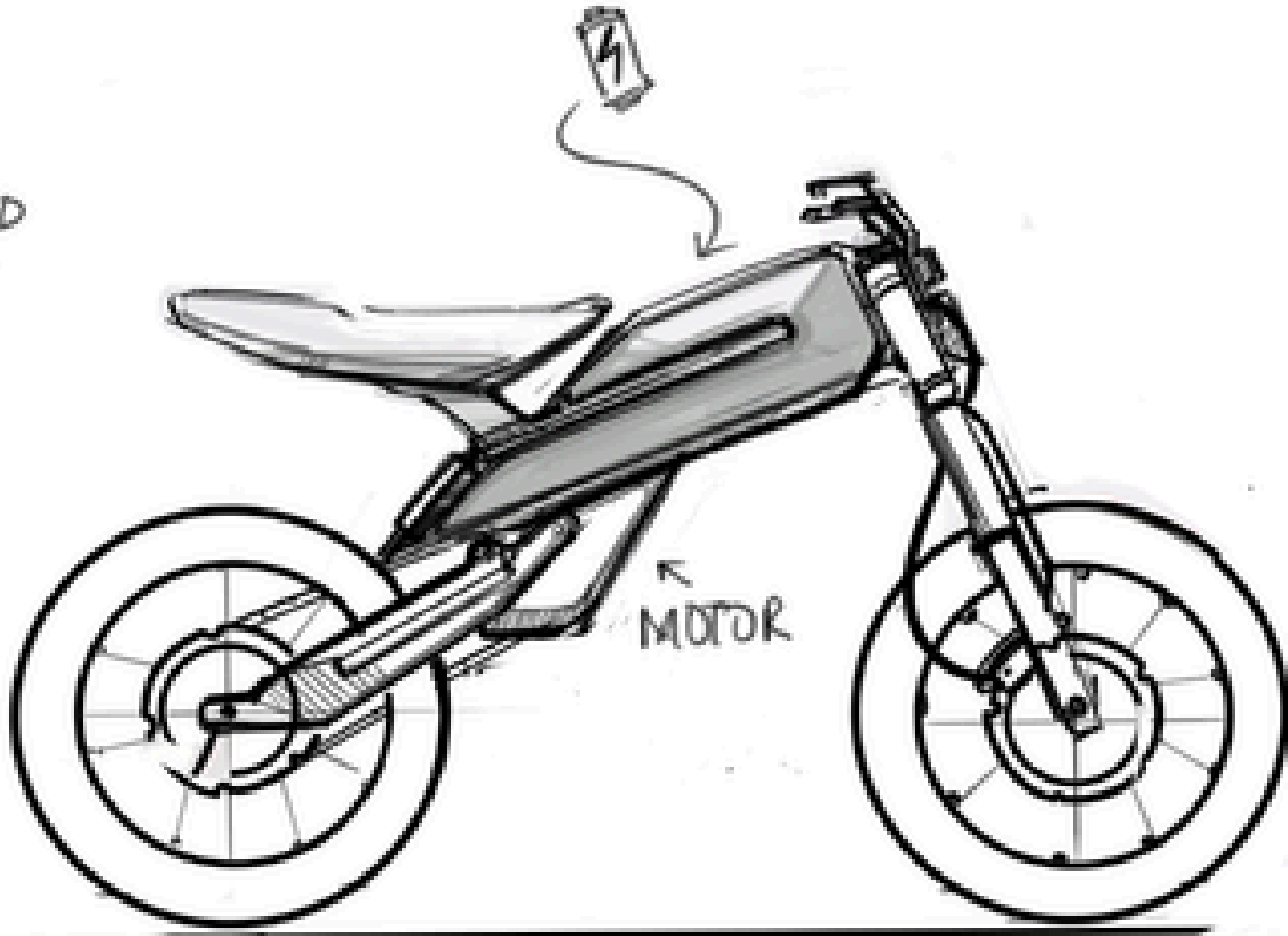
RETRACTABLE
FOOT PEG



TRIPLE
CLAMP
MOUNT



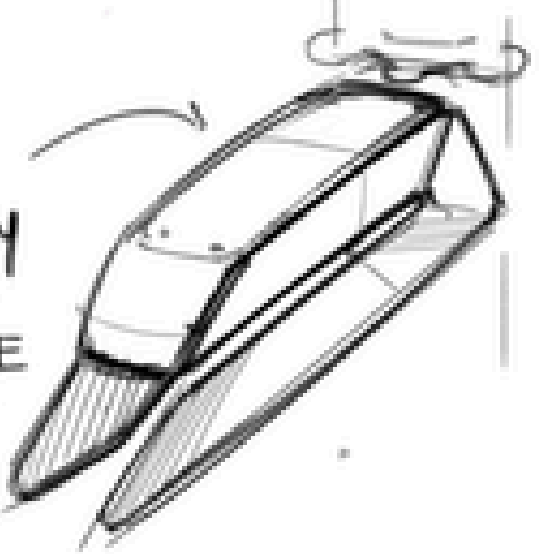
theme
/01



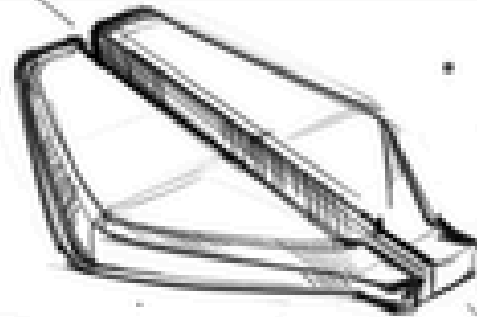
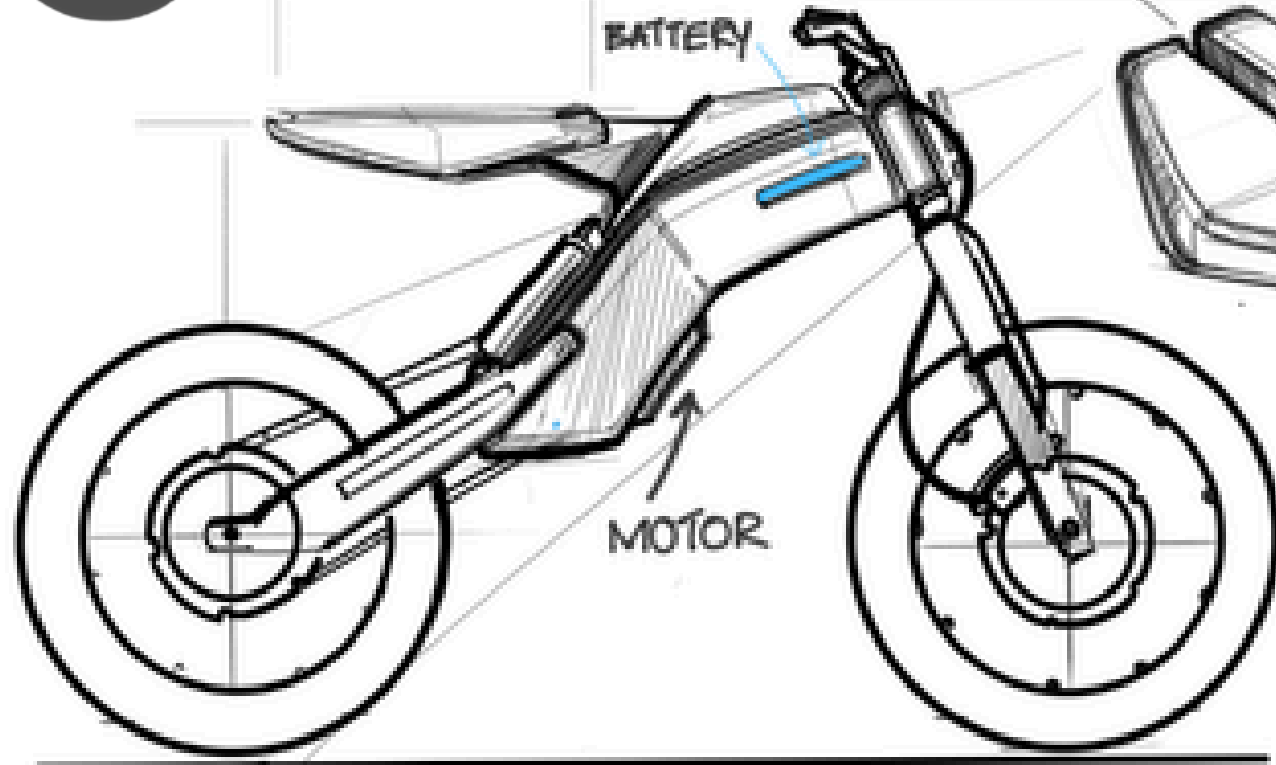
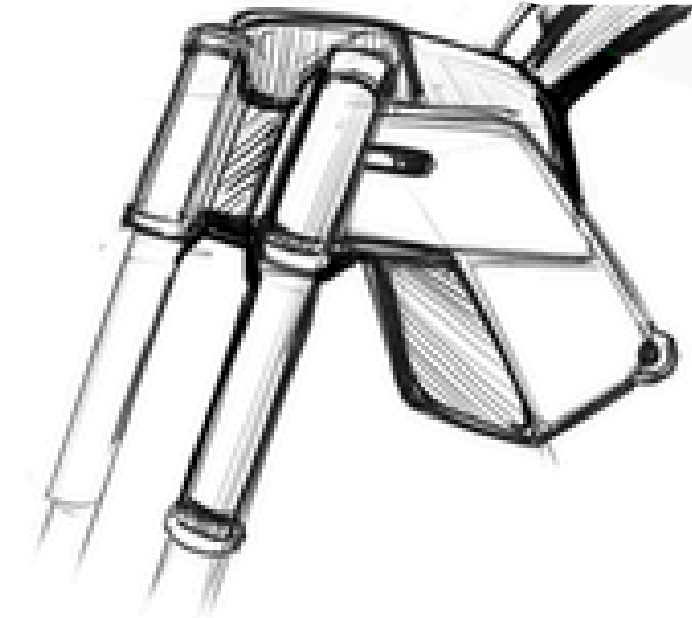
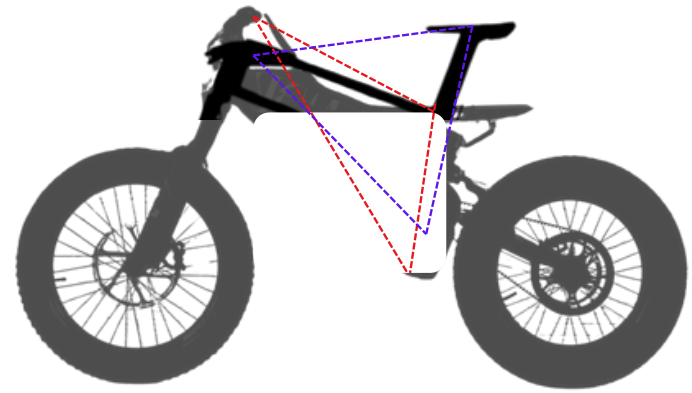
FRONT VIEW



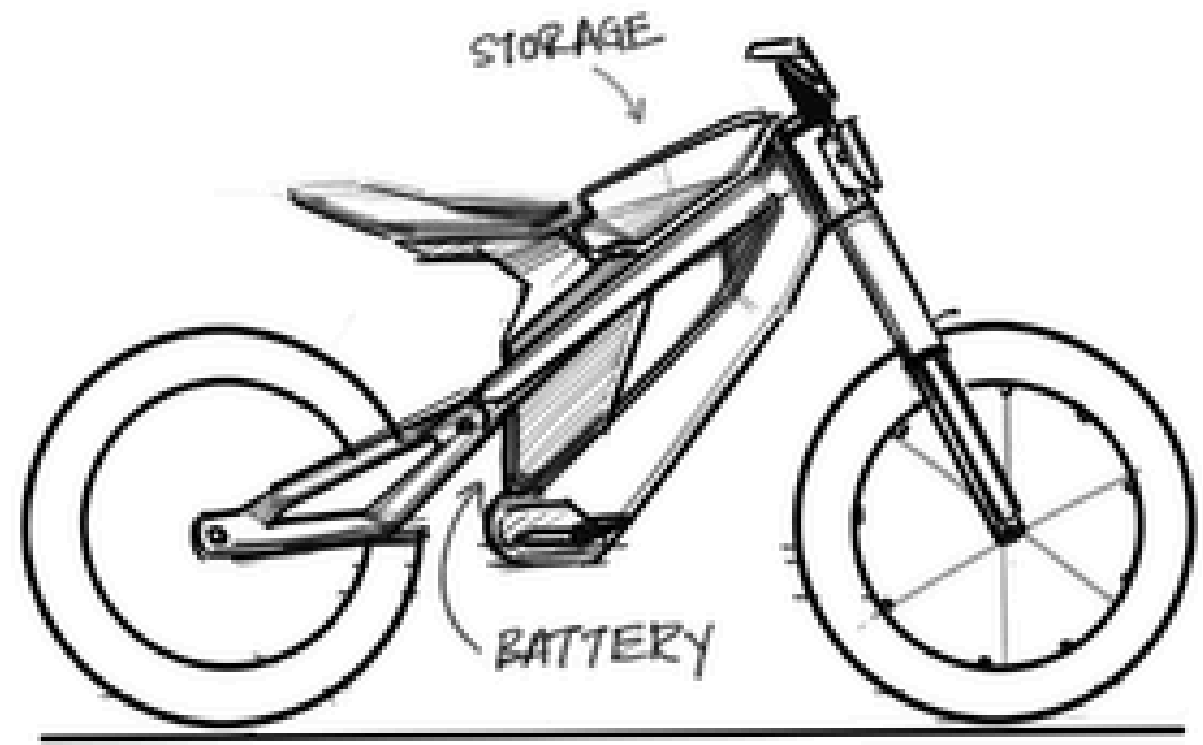
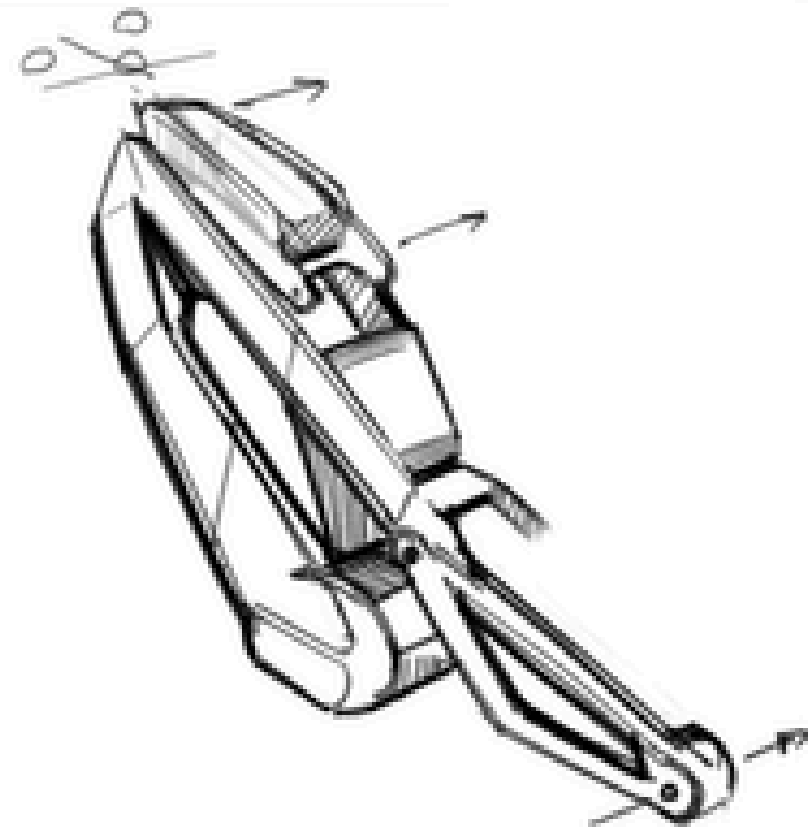
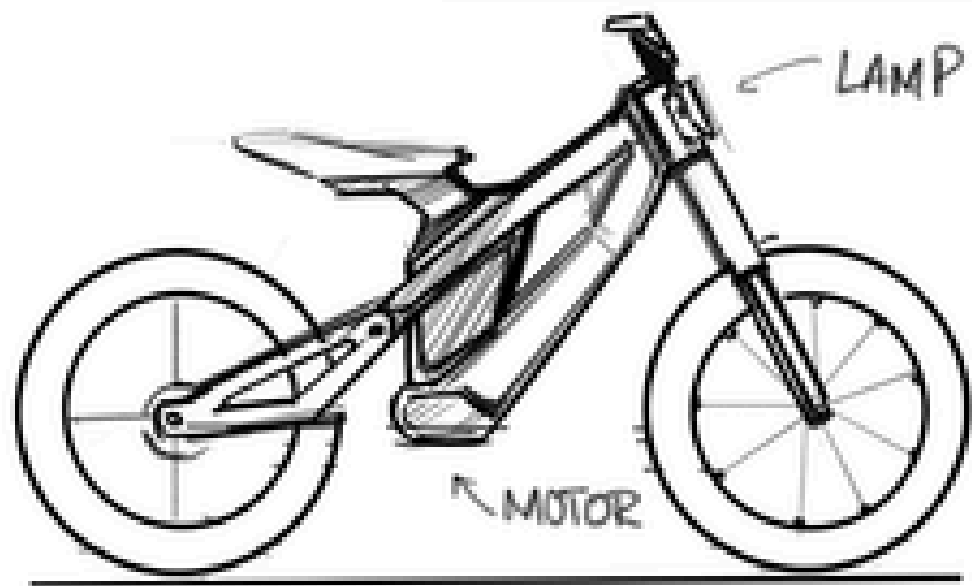
BATTERY BETWEEN THE FRAME



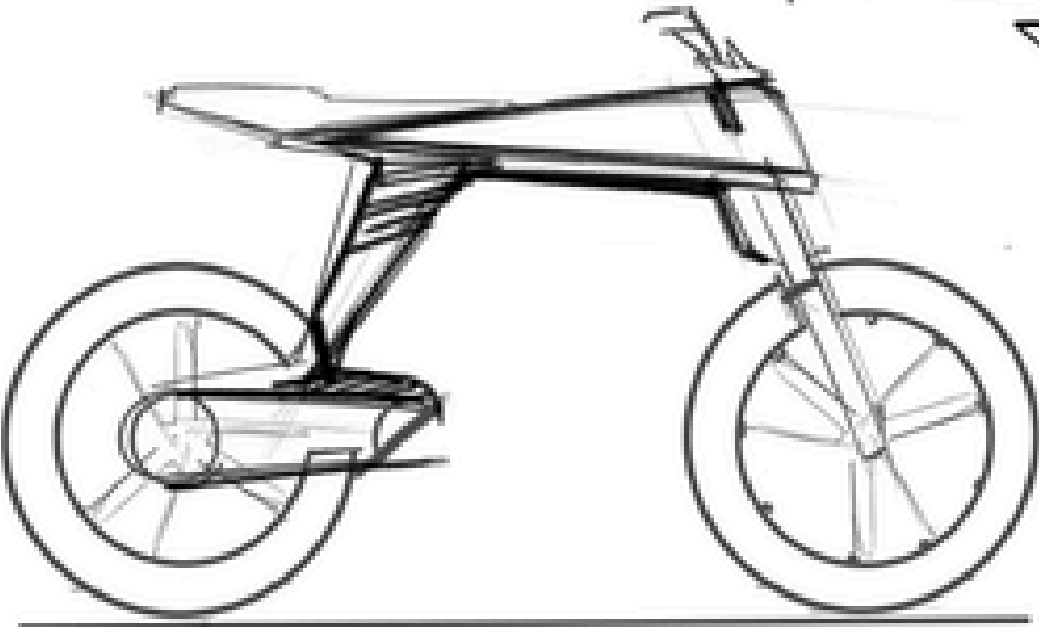
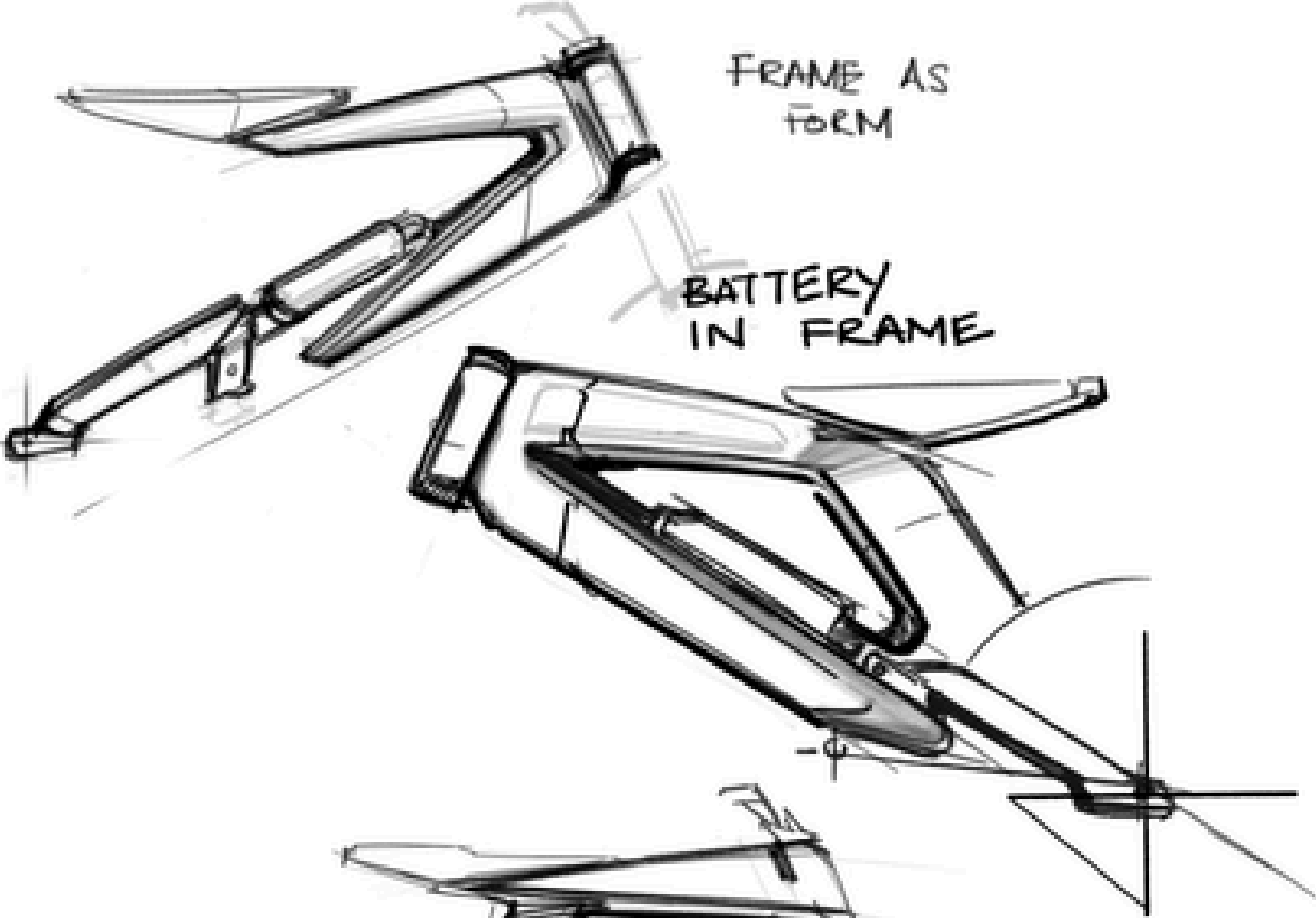
theme
/02

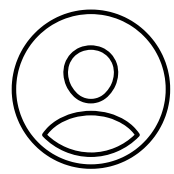


theme
/02



theme
/02

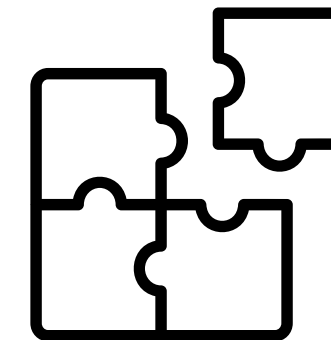




02.

CONCEPT WORK

Different light mobility use cases.



step-through

30
25
24
23
22
21
19

Convenience

"..the Pleasure has less area for legs and not much space to carry.."

"..cool, although it might be uncomfortable.."

"Cabs are available so it's easy to just book one.."

"..parking is not easy in my hostel"

"..will be quick if I had 2w"

"..scooter for easy commute"

"..brother already has dad's bike"

Convenience

"..we like Yulu, but only for the service.."

"..Dominator is not comfortable for passenger.."

"..space for two people and storage.."

"..own vehicle would be so much cheaper"

"..if they can add the pillion, ...my gf could sit with me"

"..buy a 2W to be independent"

Safety

"..2Ws as road etiquettes and congestion is not good.."

"..small EVs look weak and don't feel safe to ride.."

"..wheel look too thin, not very stable.."

"..larger wheel size, battery at the bottom, feels safer, more stable"

Safety

?

"..it's better to fall off a bullet than a yulu.."

"..less weight, can also pedal.."

"..looks really different, fun, ..is this sold in India?"

"..looks different, doesn't look cheap ..stands out"

"..this is not a 'scooter' scooter"

"..fun riding around the city"

"..good to explore the city"

Coolness

Consumers **below 23.**

Budget is tight for below 23
Convenience and Safety Primary
Decision of buying still is with parents.
Coolness is key.

Consumers **above 23.**

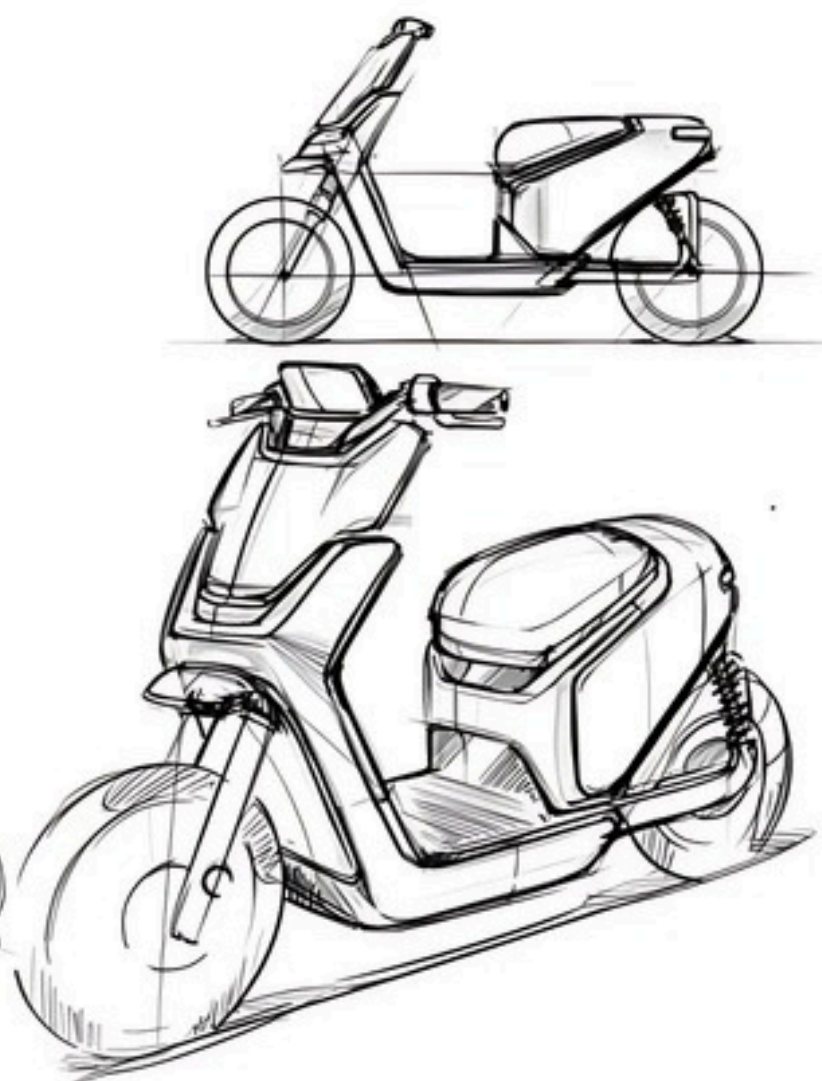
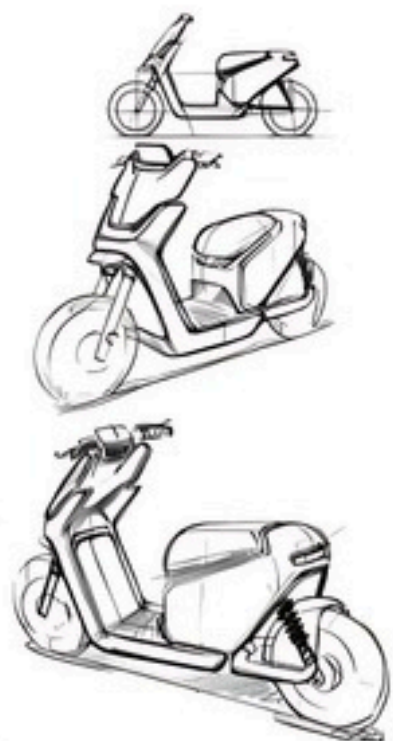
Budget above 60k mostly for 23+
Convenience and Safety Primary

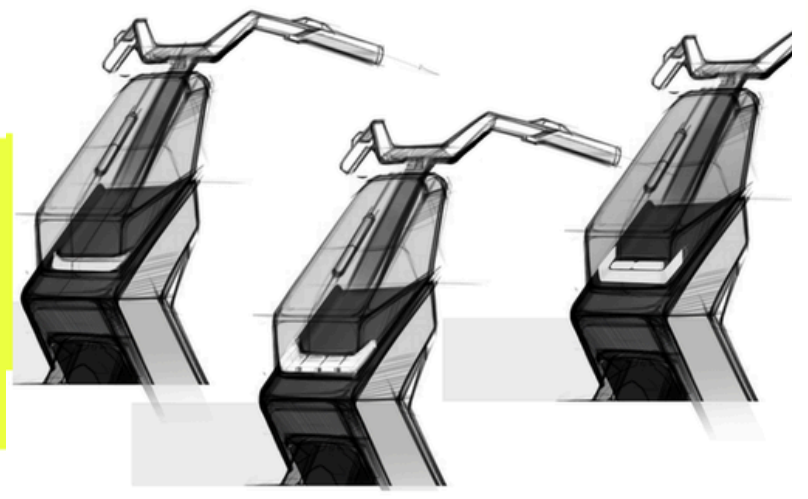
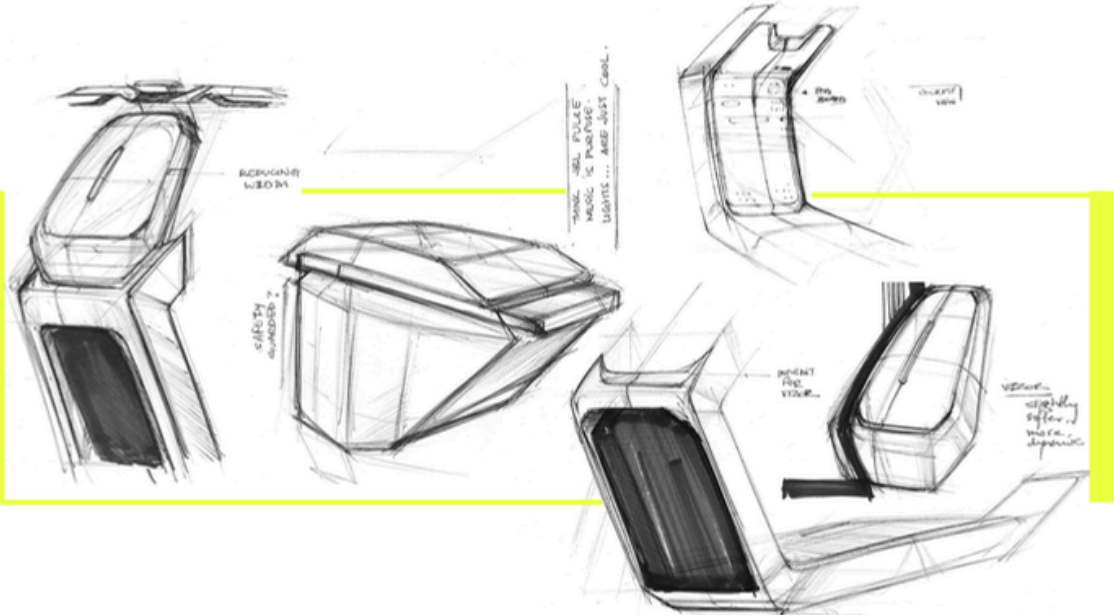
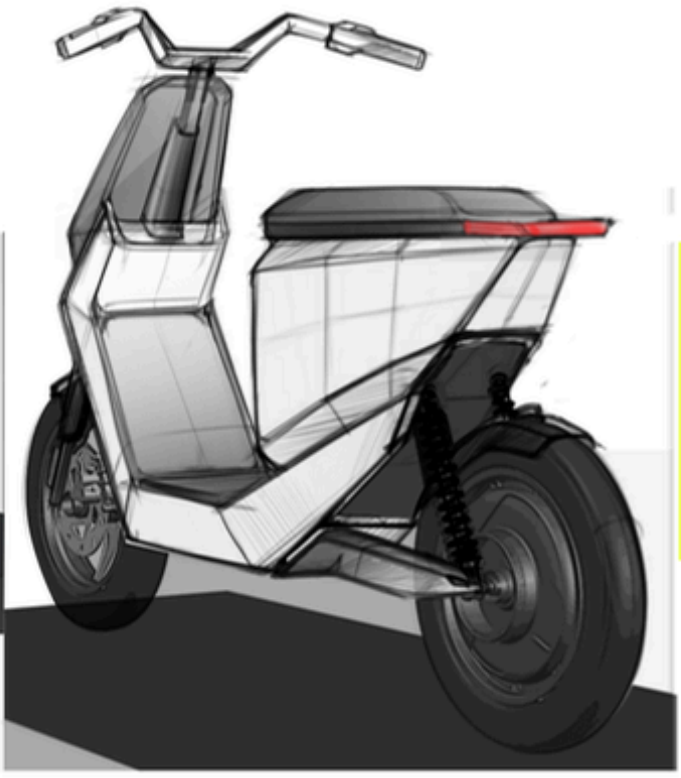
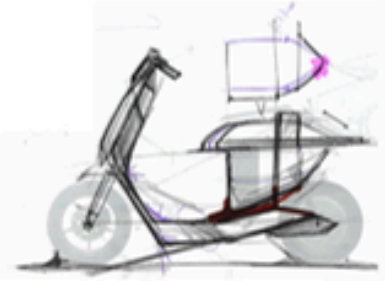
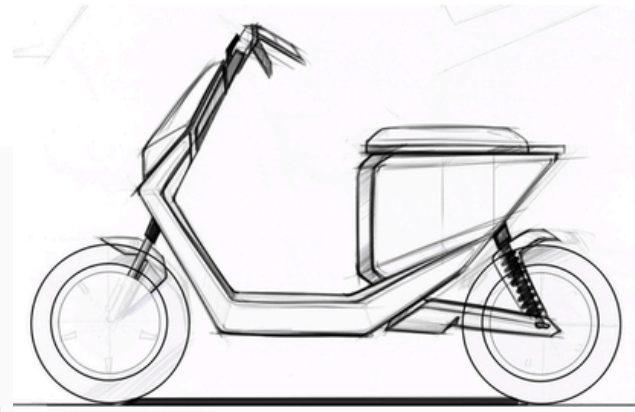
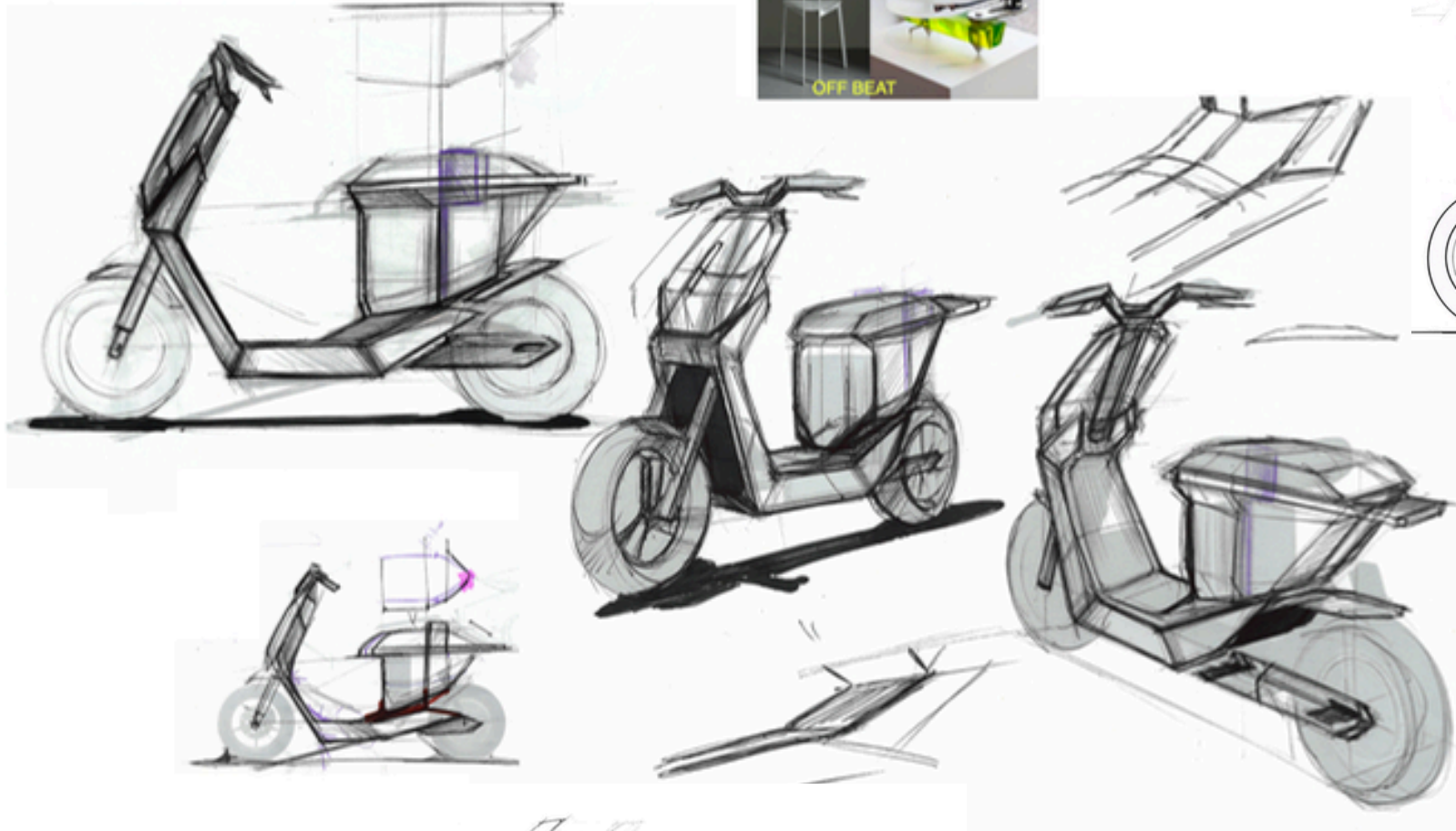
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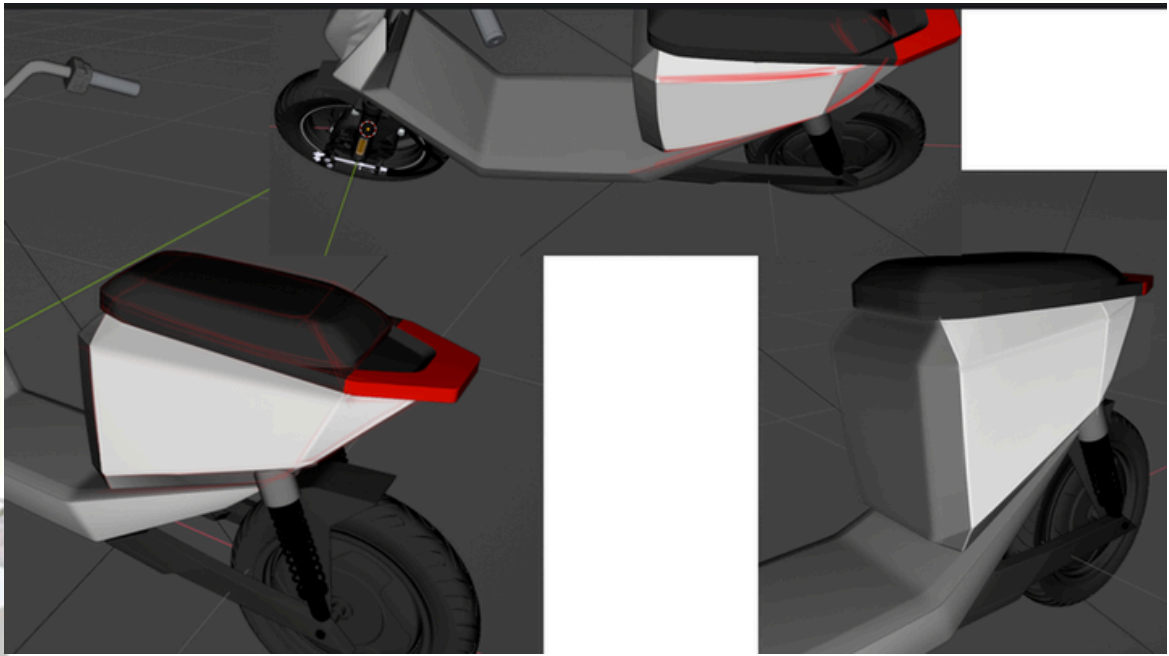
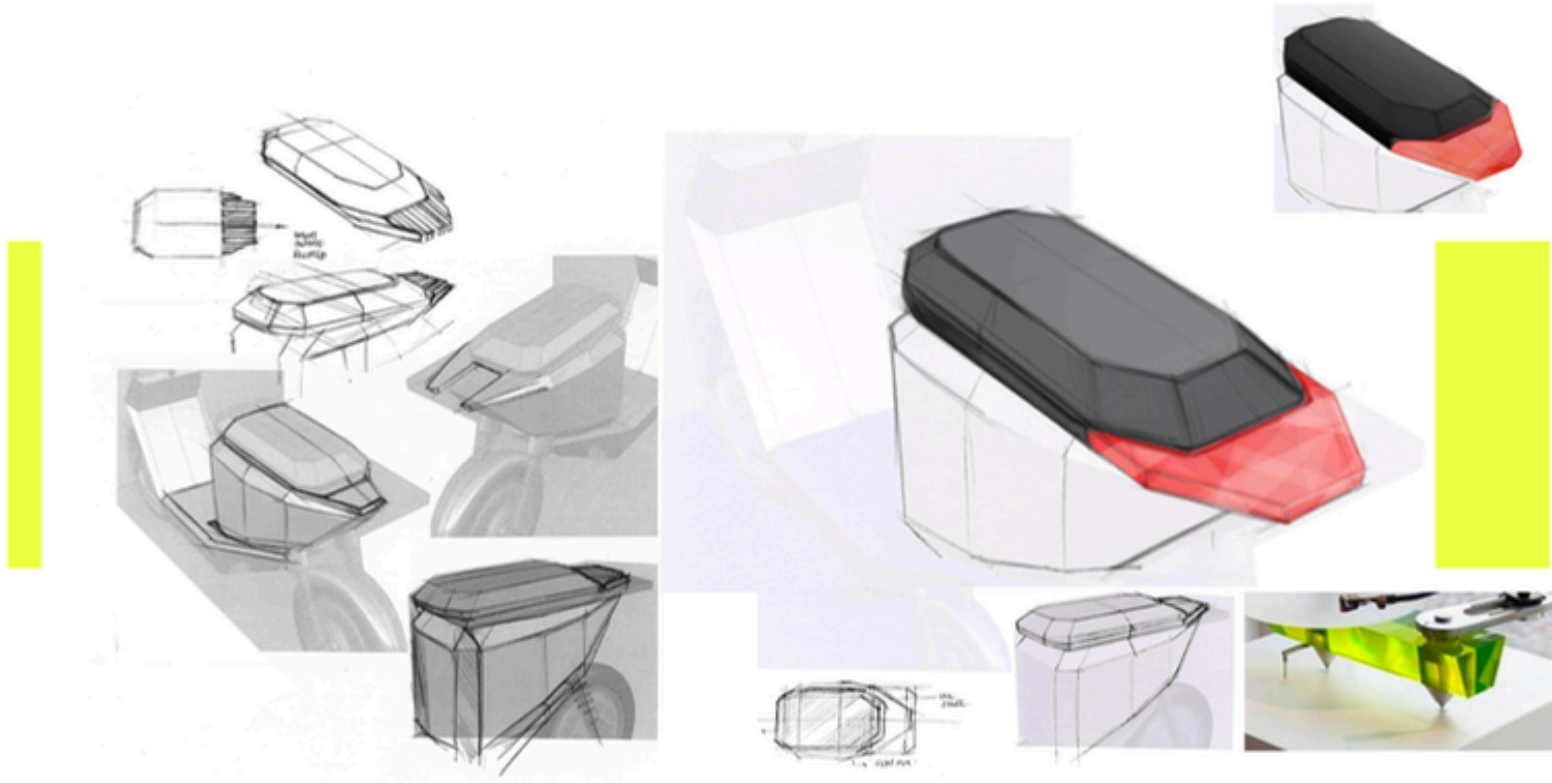
City
Convenience
Safety
Cool



ST 01
R12 1300

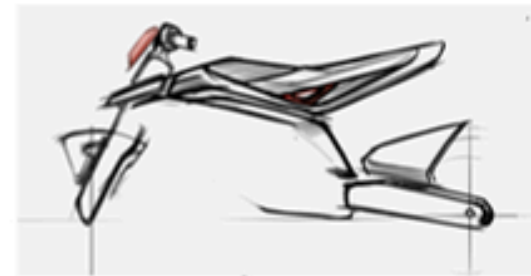






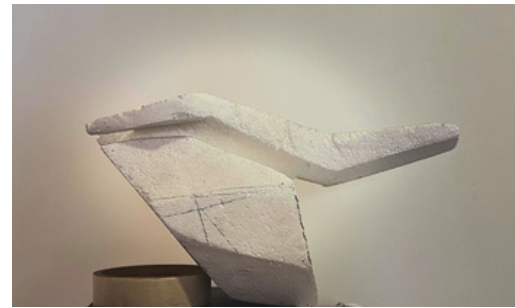
moto-next

Explorations



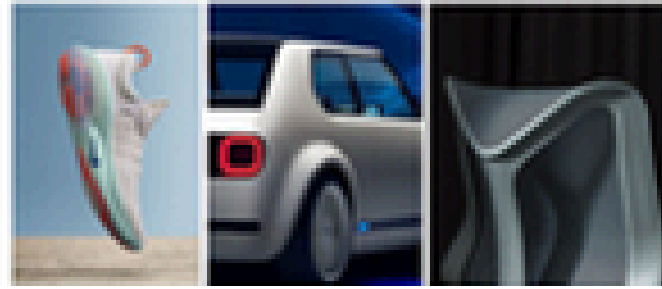


The package is broken down into three distinct pieces. The seat can be adjusted at different heights for the rider's comfort. And an upgradeable battery pack is housed between the panels hanging from the twin frame.



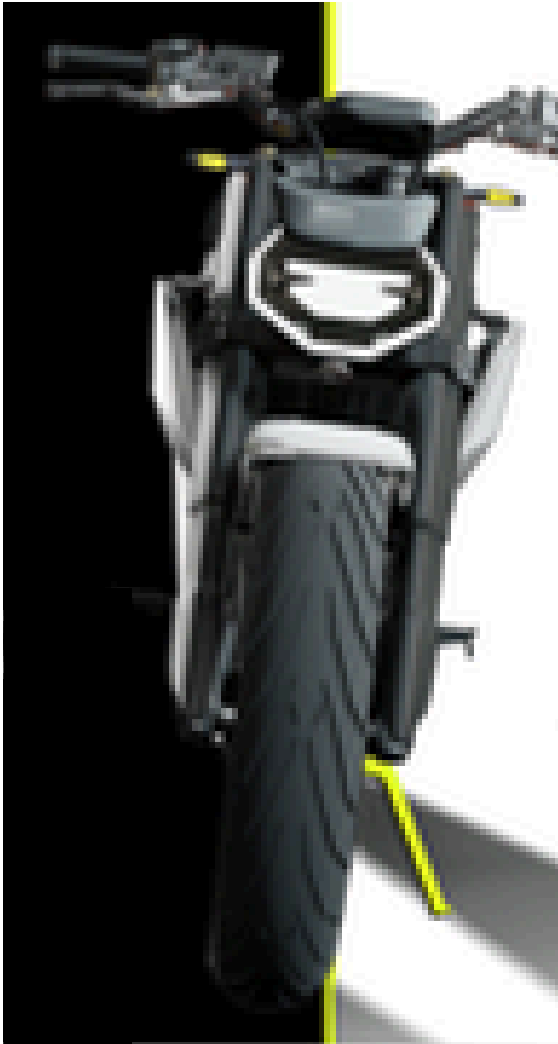
THEME - REDUCTIVE

The concept is rooted in exploring the decluttered nature of electric mobility. The theme narrows the singular gesture of the form. A play of simple shapes and rethinking the use of materials allows for many possibilities.

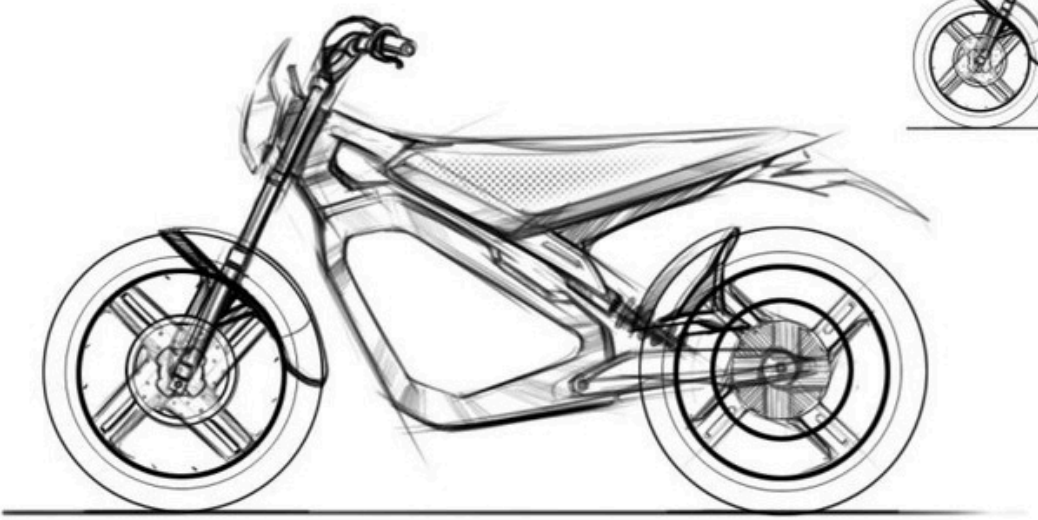
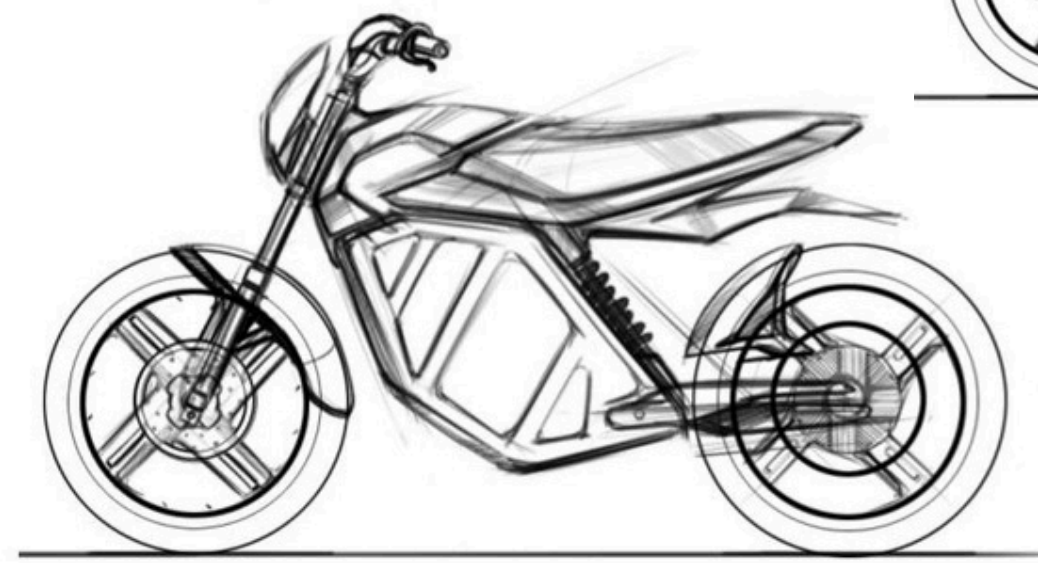
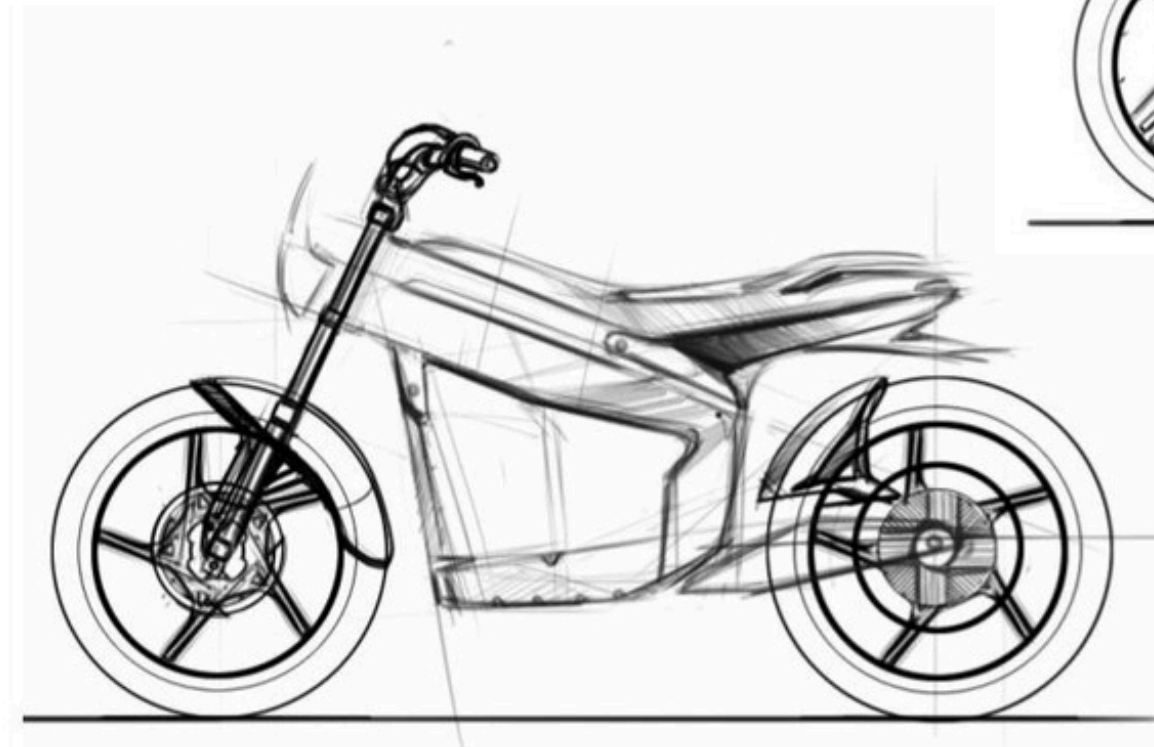
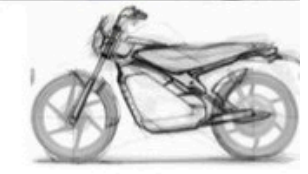
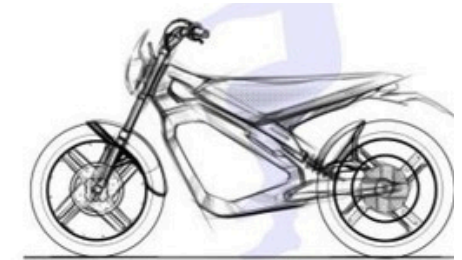
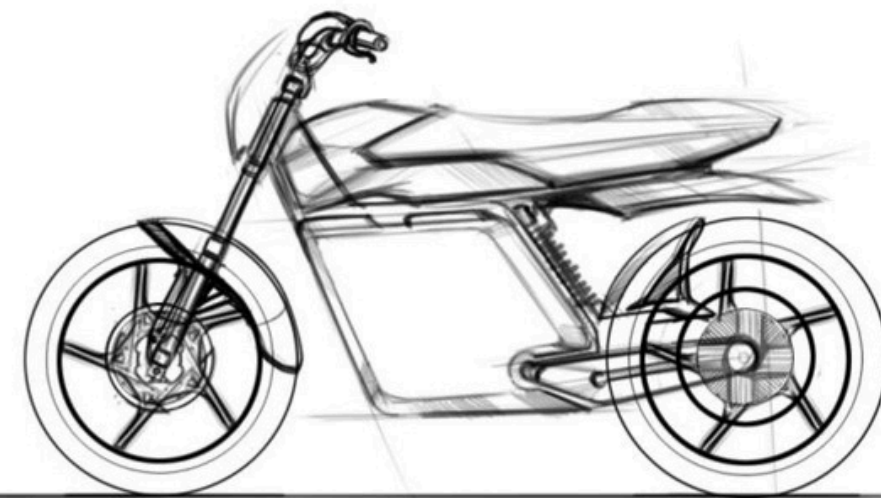
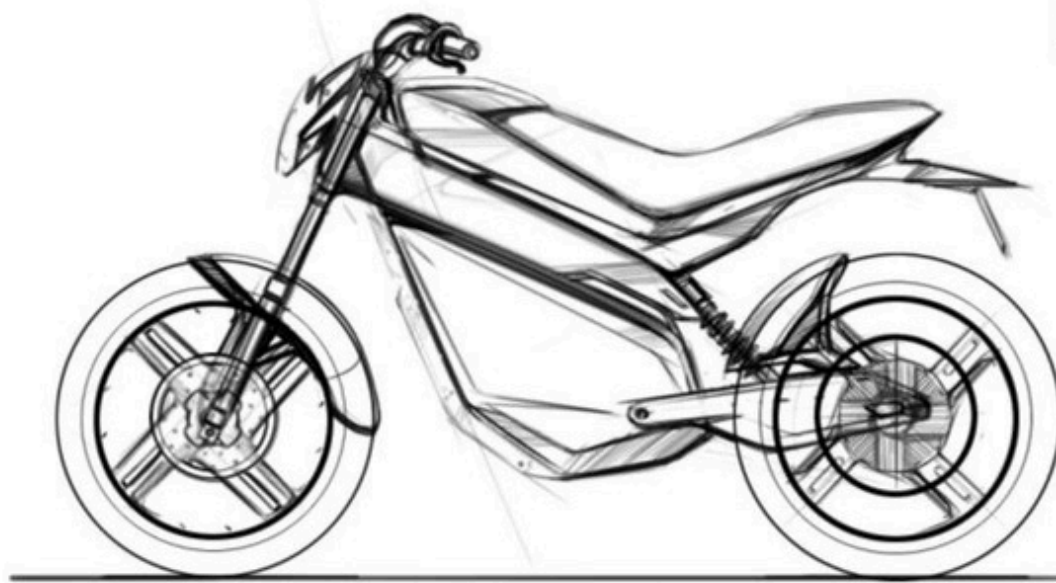


The seat being an easy to dock on-off part, allows for customization. Not just a mesh, the form can be adopted to many composite materials and fabrics taking inspiration from shoes.

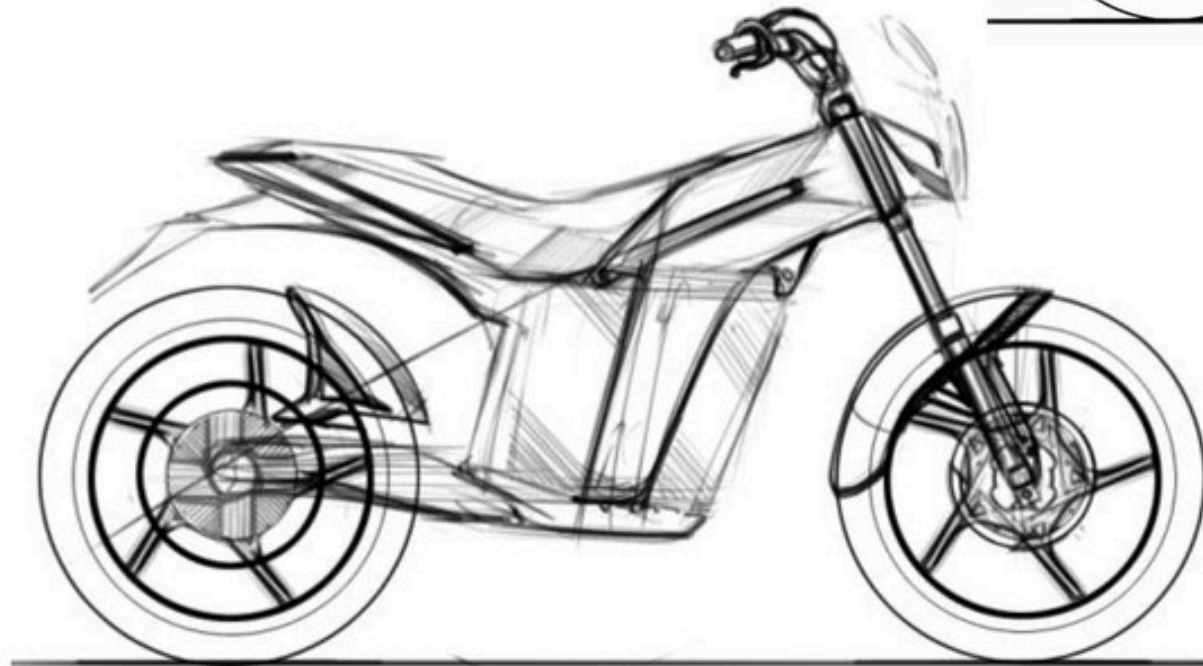
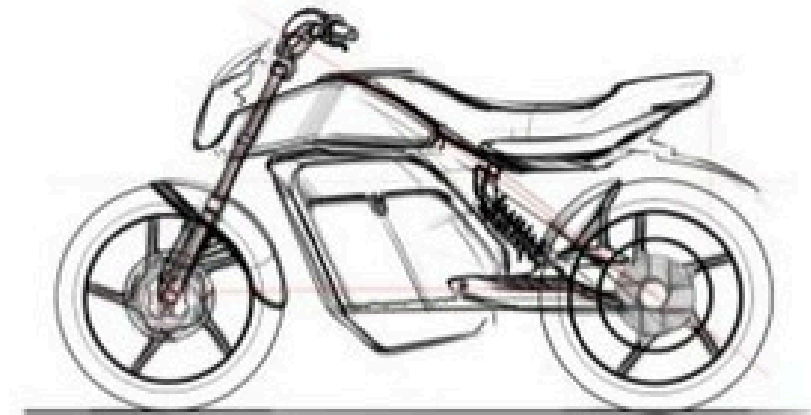
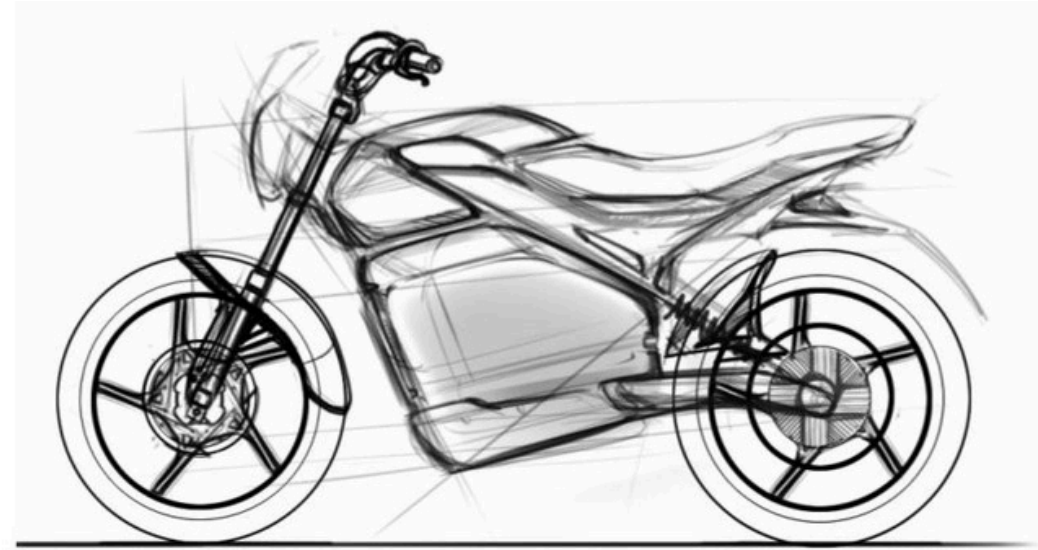
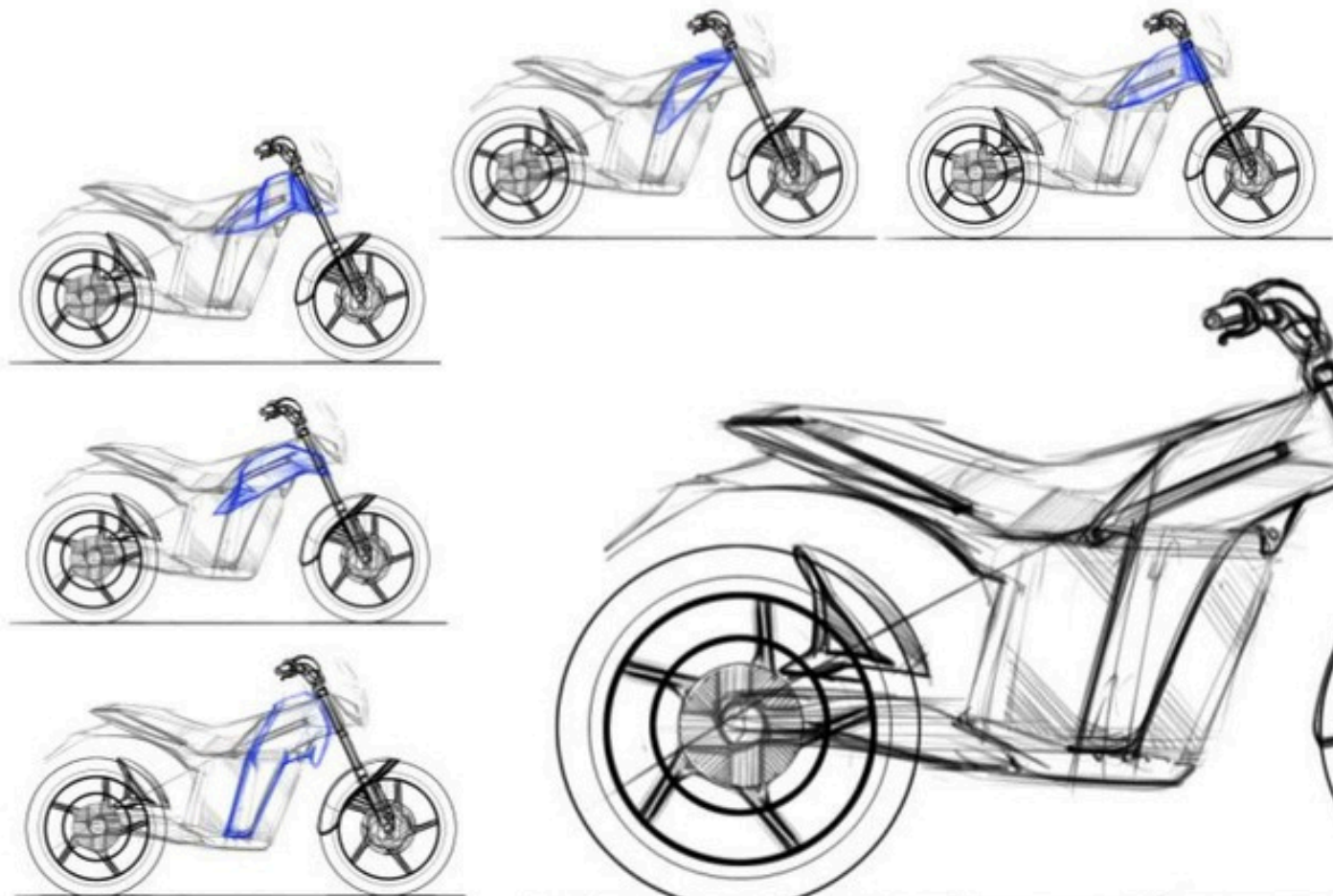




 **sketchbook**



 **sketchbook**



SHRUTI JOSHI
shrutijoshi5594@gmail.com

/ fin.

Looking forward
to our collaboration.
