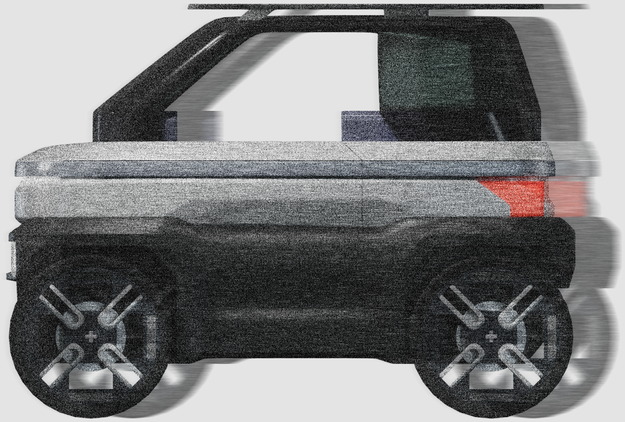
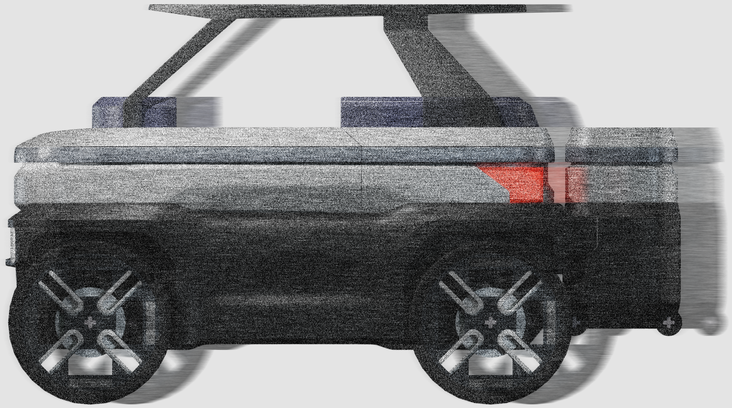
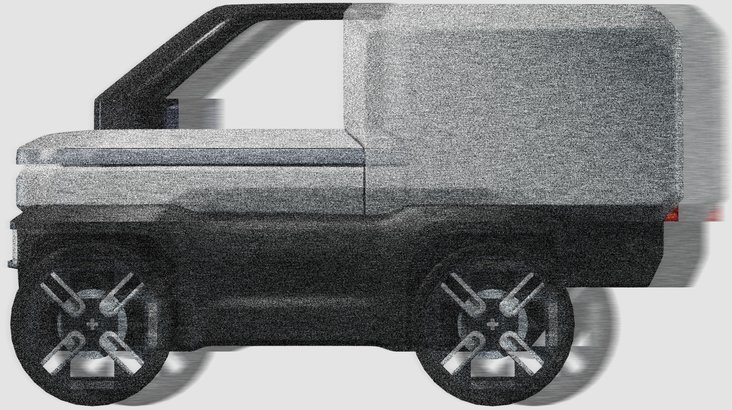
ELIOT

Cargo Commuting Vehicle for Cycle Infrastructure in Urban and Suburban Areas







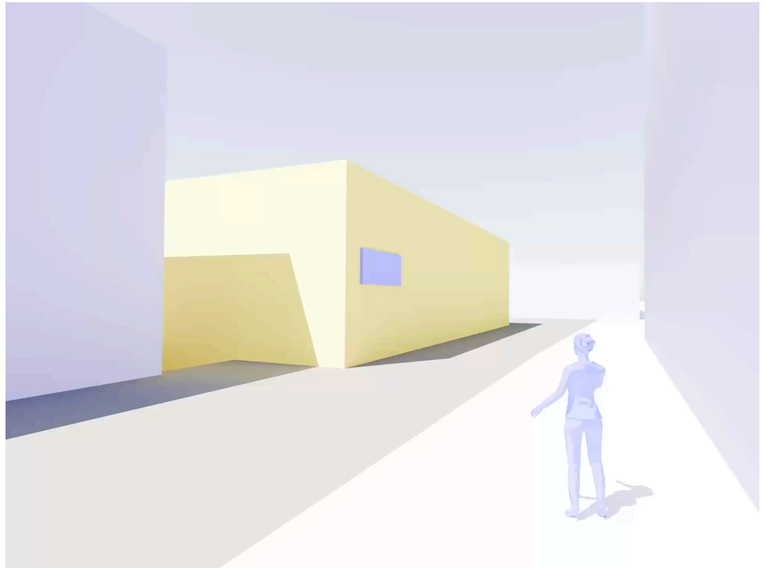
Core 77 Presentation
Eco - Innovative Design
FH- Joanneum Graz
Philipp Niechoj

Dipl. Des. (FH), MFA Magnus Feil
Prof. Mag.art Thomas Feichtner

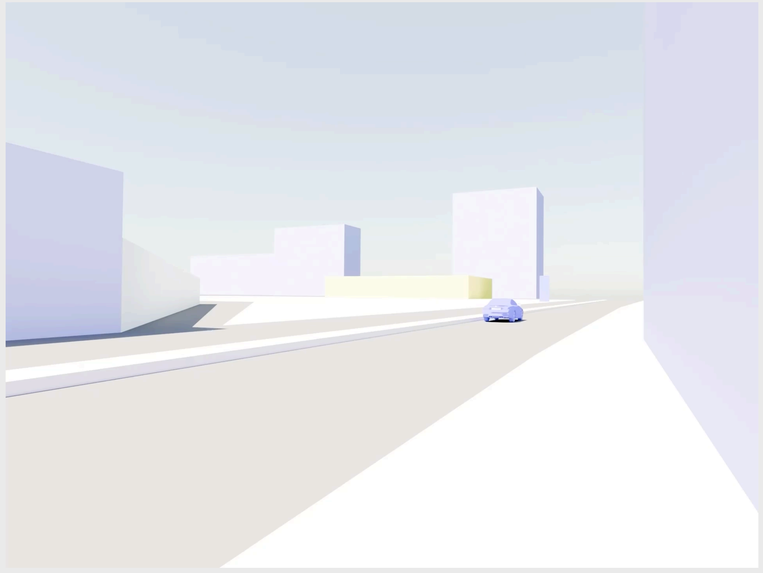

Cargo Capacity 1490L (with flipped seats)
1500L
The average car has become extremely space inefficient
The infrastructure around it too.



Vast hostile public space is the result of car centric city design.



Environment designed for walking





Environment designed for cars

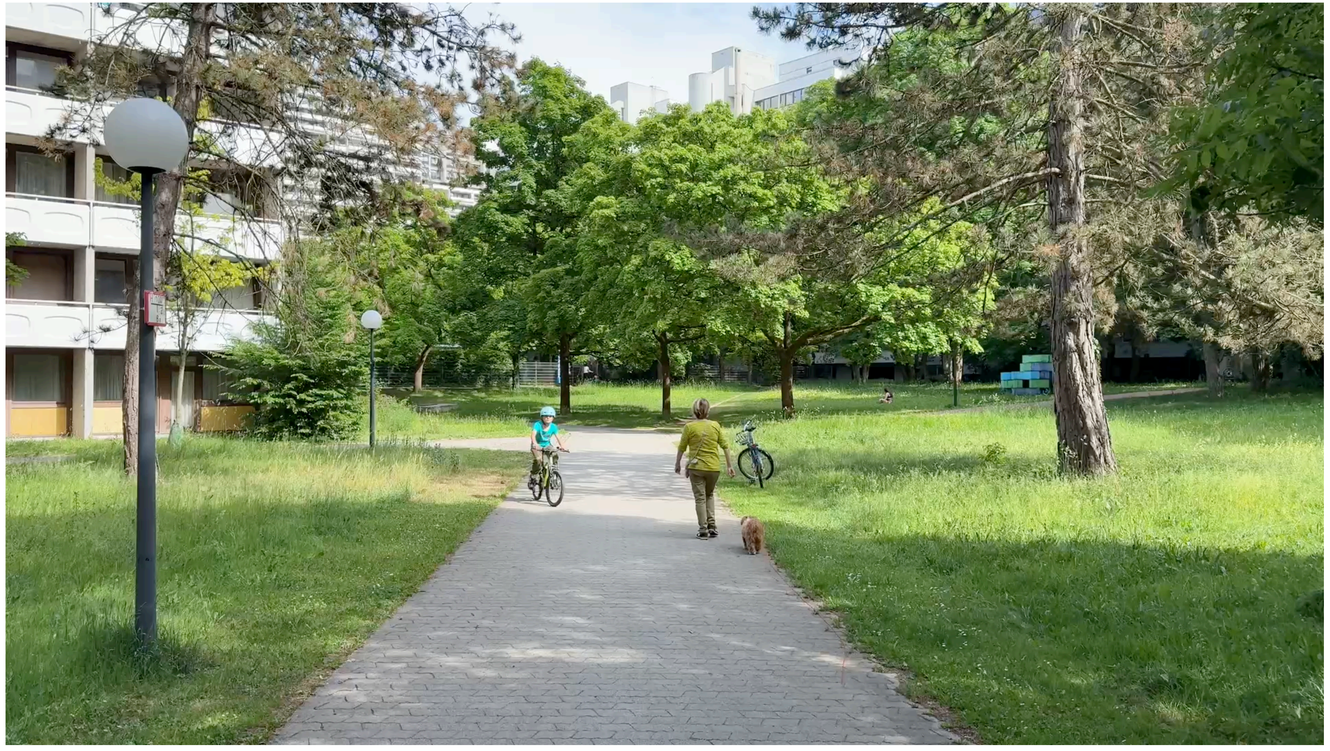
Environments designed for walking are oriented around the dimensions of people. They are more liveable and offer more quality of stay.

Environments for human scale

Cities for People - Jan Gehl

Pedestrian Quality and Cycling

Cycling Compatible



Not Cycling Compatible

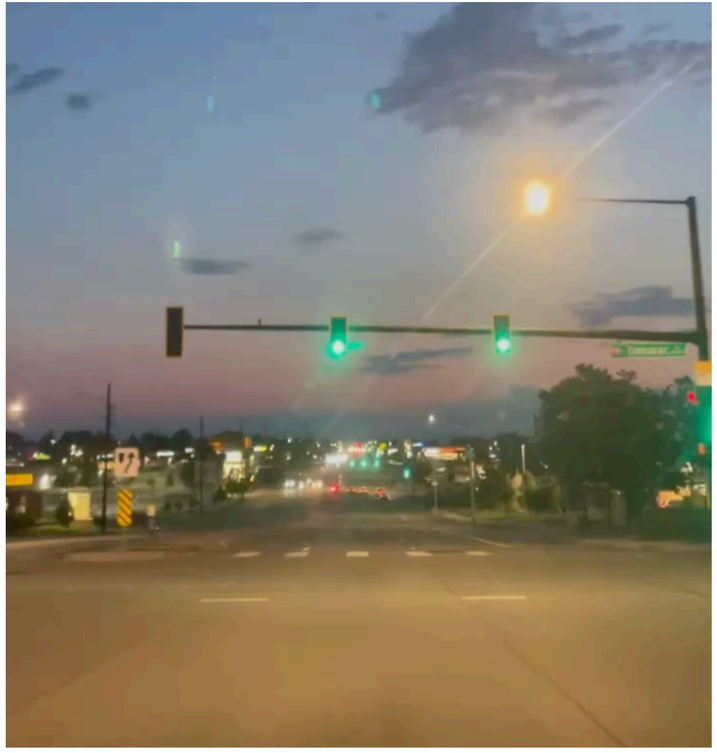


Photo Credit: Mika Leßmann

Cycling is ±3x faster than walking thus very compatible with human scale environments.

Categories of Individual Mobility

Invisible Barrier

Hard to convince people to buy due to unattractive price-performance ratio



	Walking	Follow Me	Bikes / Standup-Scooters	E-Mopeds	Cargo Bike / Delivery Quads	Microcars (L6e / L7e)	Compact Car	Regular Car / SUV
Category								
Example		shopping cart / PostBot	Cowboy Cruiser	Yadea Y1S	Schaefler BioHybrid/ Urban Arrow	Citroen AMI / Microlino	Smart fortwo / VW UP!	Audi A3 / Mercedes GLC
Characteristic		similar to travel suitcase		may be faster than E-Bikes	<1,3m width		± 3m length	>4m length

Work well within pedestrian infrastructure

Work well within propper bike Infrastructure

Work well on roads in densely populated areas

Dimensions for Cycling Mobility

Eliot Size

Weather Protection

Why do people still prefer cars?

- Weather protection
- Cargo transport
- Safe storage
- Urban wear & theft



Insufficient weather protection



No cargo transport



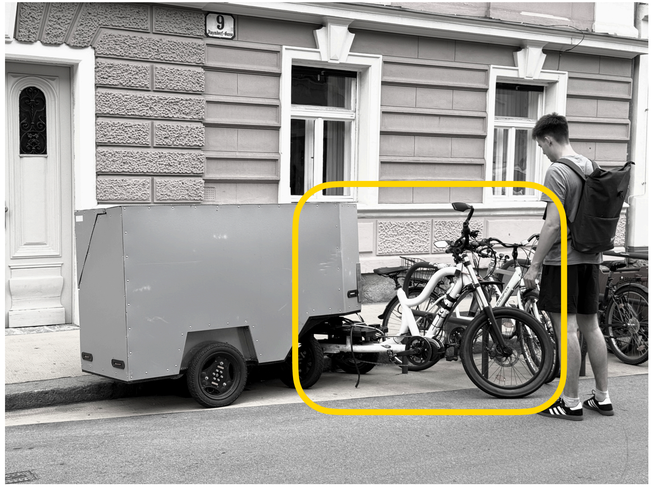
Safe storage, Urban wear and Theft are known problems

People will keep preferring cars if alternatives don't solve their daily needs.



https://it-kanalen.dk/stihl-lancerer-mobile-green-care/ (15.11.25)

Pedals take a lot of space and require uncomfortable seating positions





https://www.core77.com/posts/137432/Honda-Launching-Urban-Bike-Lane-Based-Delivery-System (03.09.25)

At ≈5% human power input the efficiency of pedals is questionable

Most vehicles designed for bike infrastructure have pedals solely due to legal regulations

Problems with pedal powered vehicles

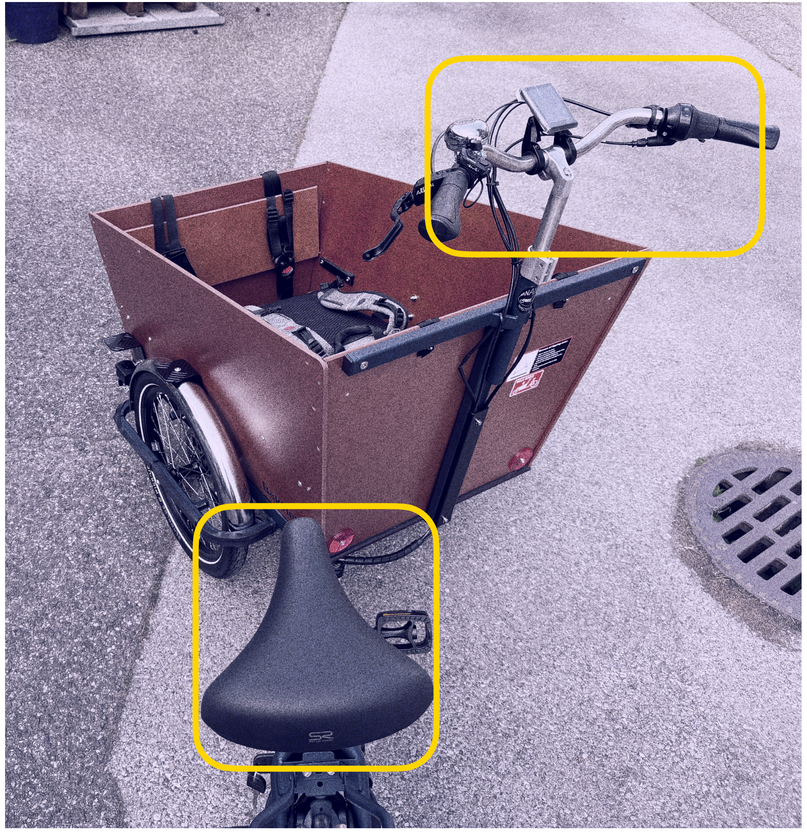
Current alternatives to a car



Emotional unappealing



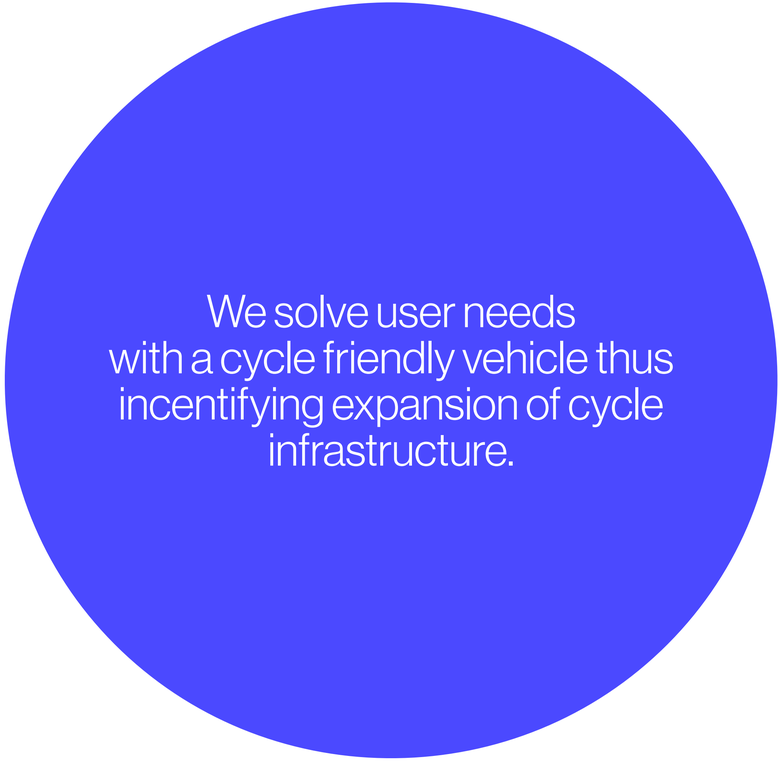
Impractical DIY solutions



Poor driving capabilities



Problem Space

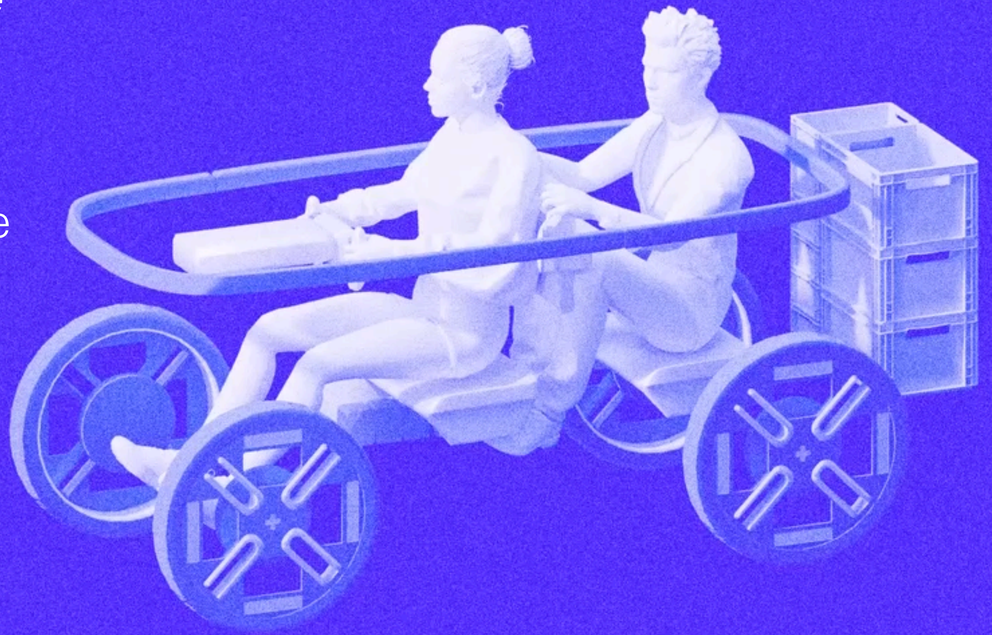


Solution Space

Steer by Wire

Safety Frame

Hub Motors



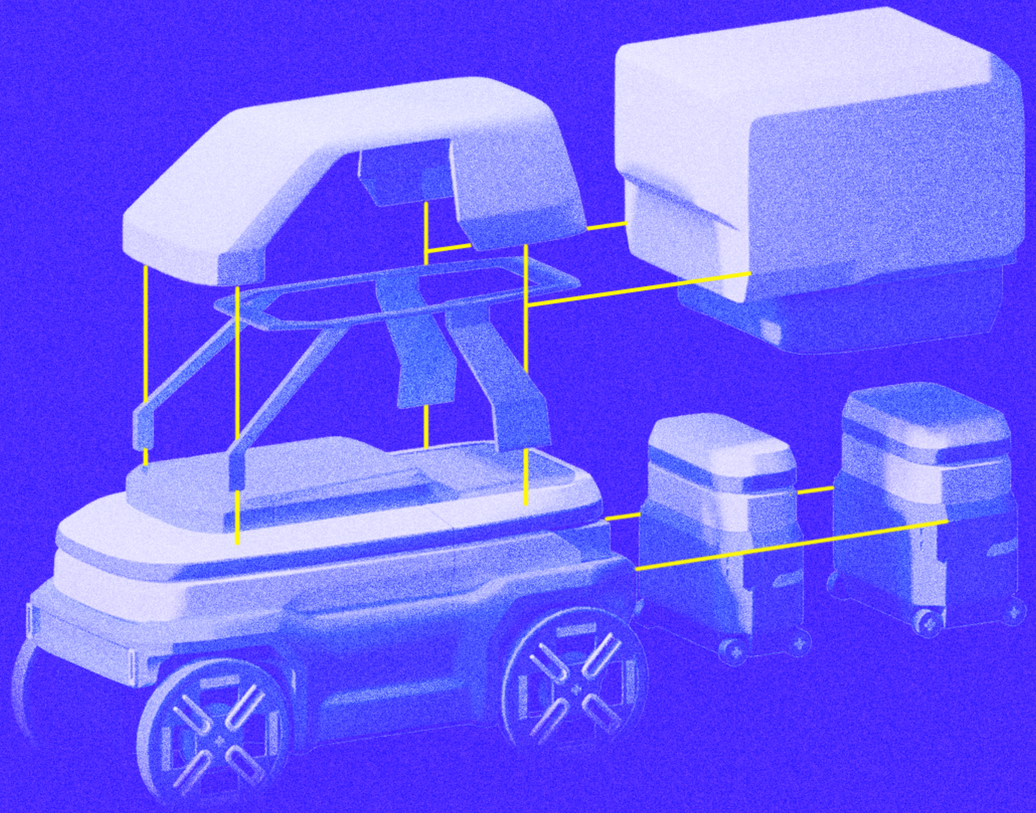
Extendable Cargo Space

6x Batteries

Package

2100mm length
1000mm width

Seating height 550mm



Factory-Defined Modules

User-Configurable Modules

Package Modules



41m²

Bike traffic
at 30km/h

140m²

Car traffic
at 50km/h

2,1m² ELIOT

13,5m² Parked Car

Space Occupation

Data from: https://www.zukunft-mobilitaet.net/78246/analyse/flaechenbedarf-pkw-fahrrad-bus-strassenbahn-stadtbahn-fussgaenger-metro-bremsverzoegerung-vergleich/ (15.09.25)





utility



Target Audience Mood

progressive

adaptive

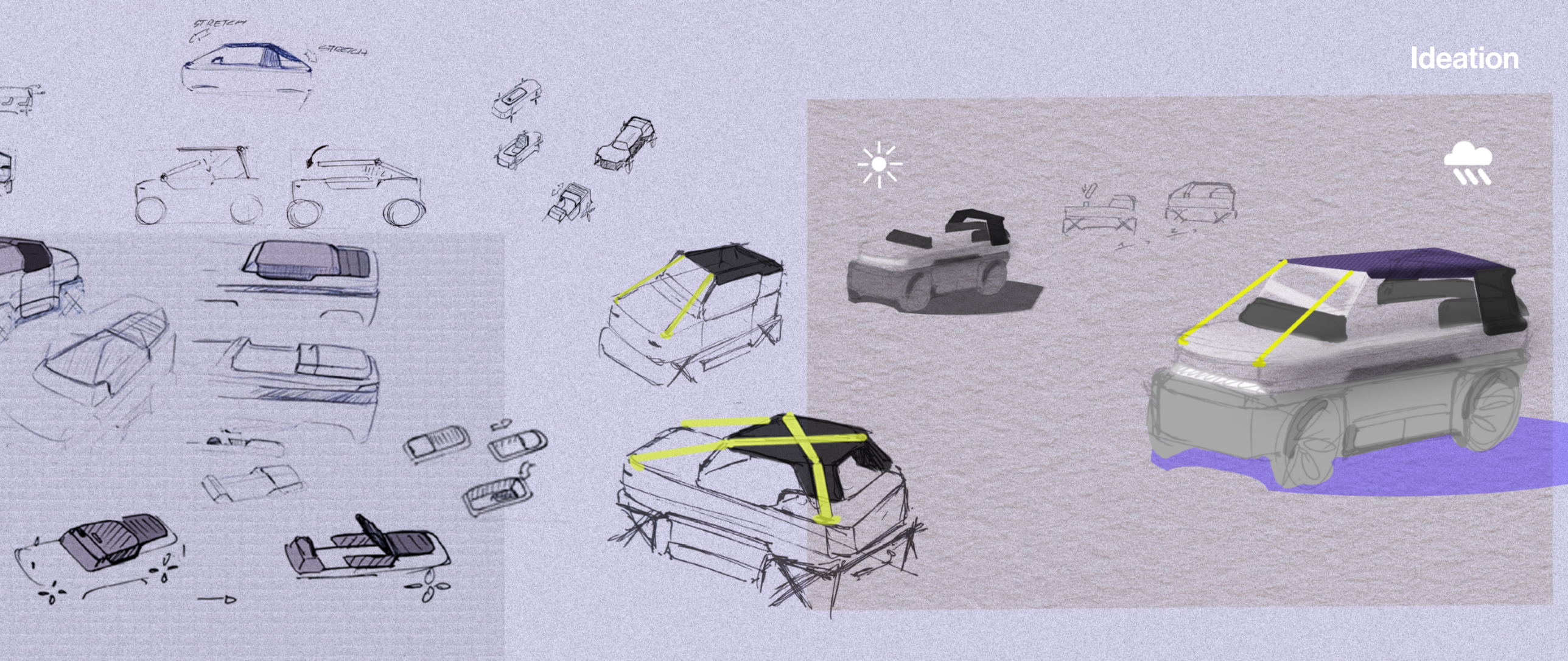




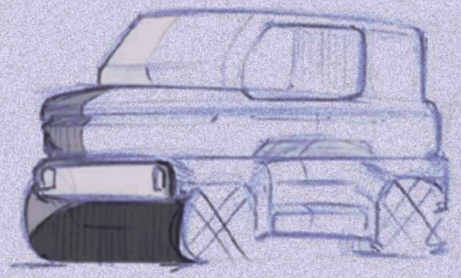
community

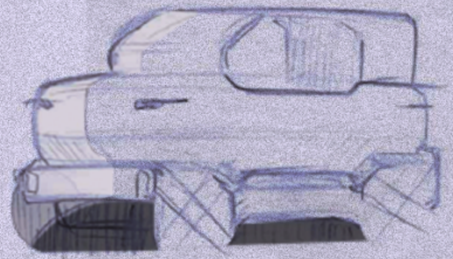


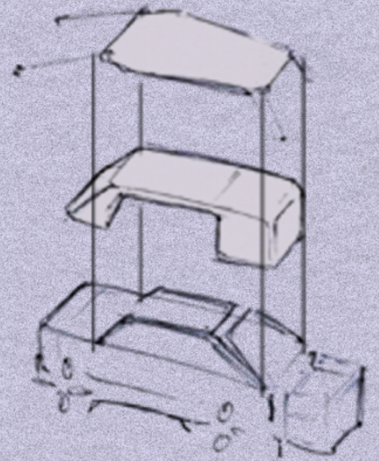
Ideation

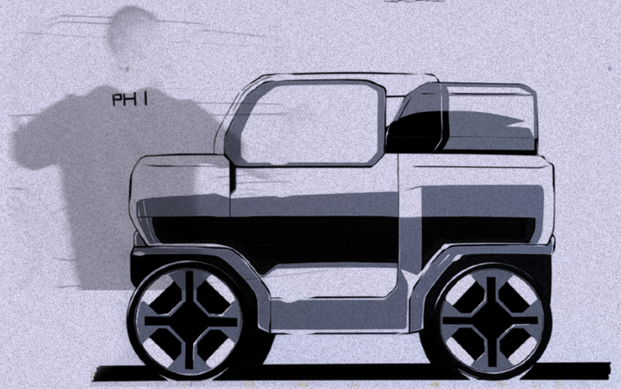


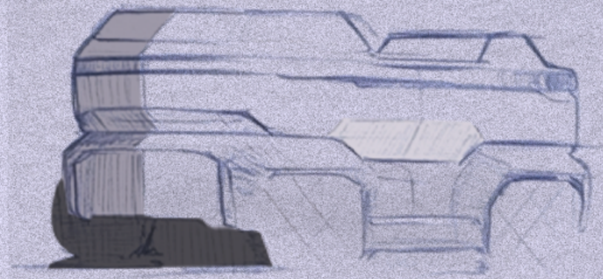
Key Sketches

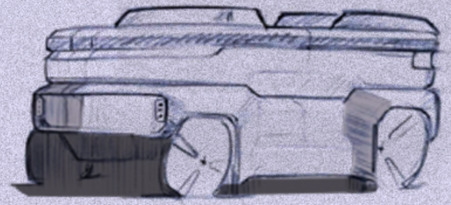


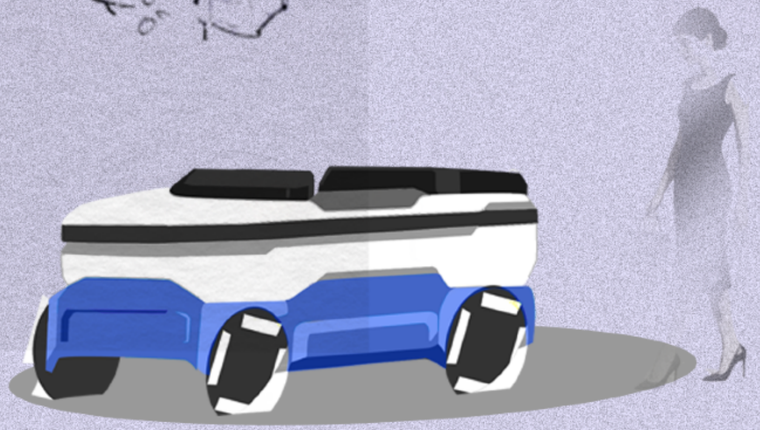












Family Type

Two seats
Hardtop



Fun Type

1+1/2 seat
Convertible top & Windshield



Family Type

Fun Type

Utility Type

For Commercial Use



Cargo Box







Box S: 117L

Box M: 192L



Transport capacity can be adapted to current needs of the trip with attachable Cargo Box. It can be used independently as suitcase or shopping aid.

Utility Type



Not longer as regular Eliot
with Cargo Box size M



2,5m length

691L Cargo Capacity



Metal safety frame

Body from recyclable plastic

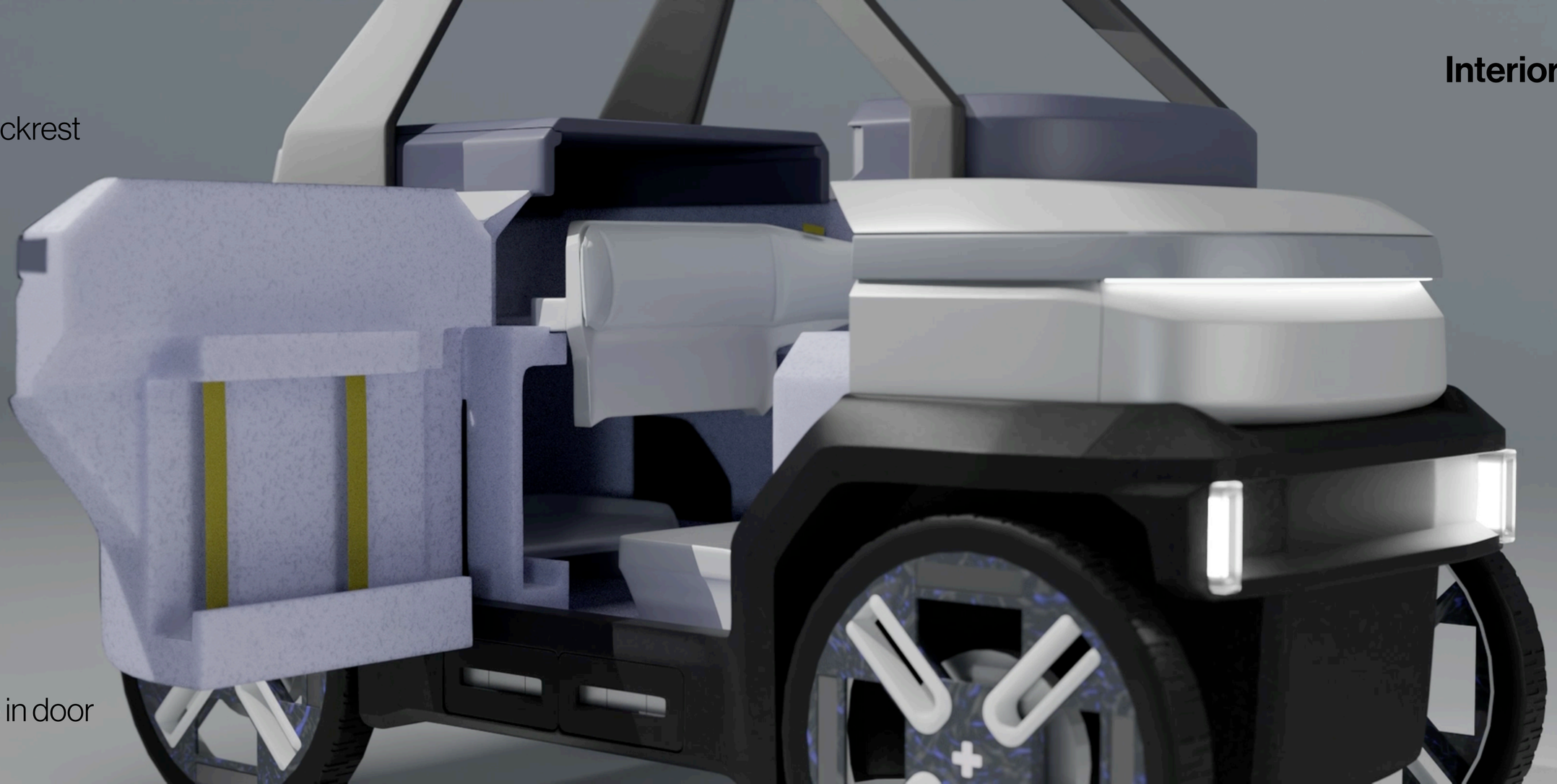
Soft recycled plastic
for bumpers



Materials

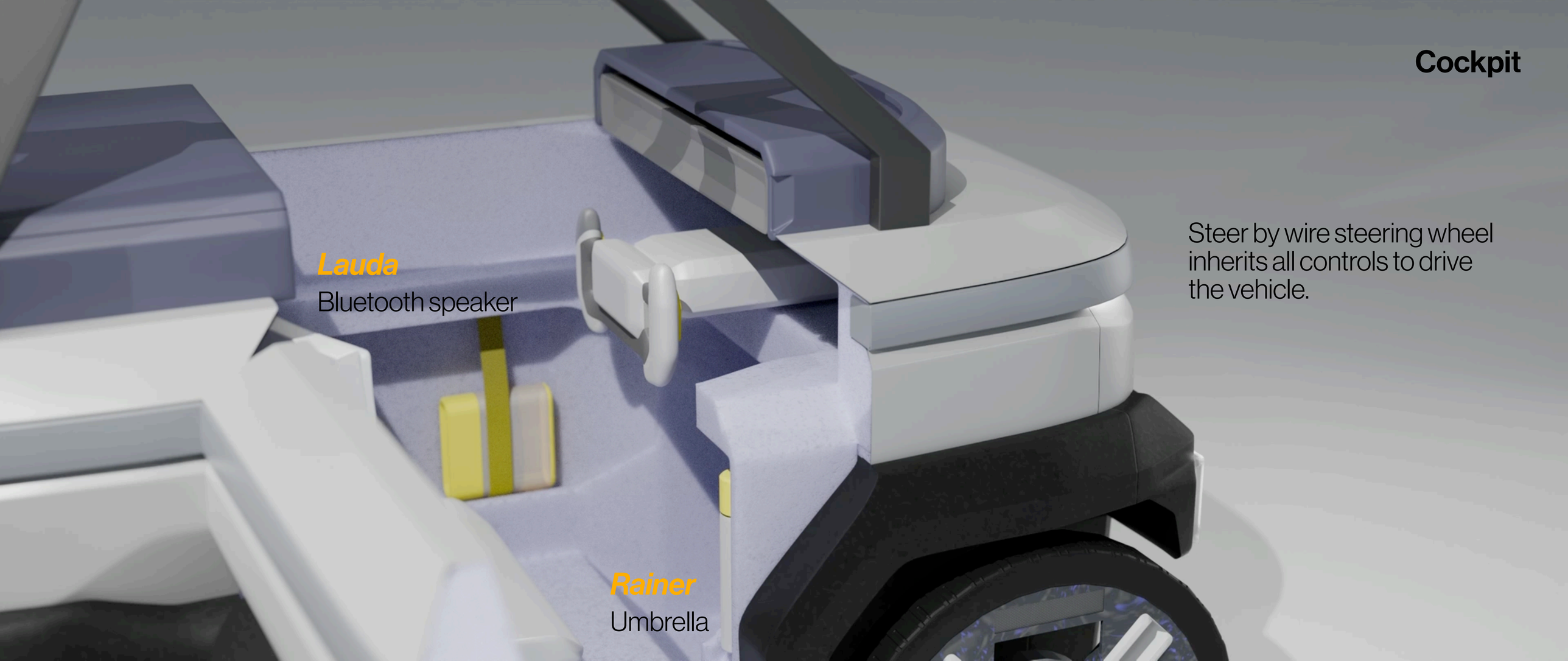
Interior

Removable backrest
for rear acces

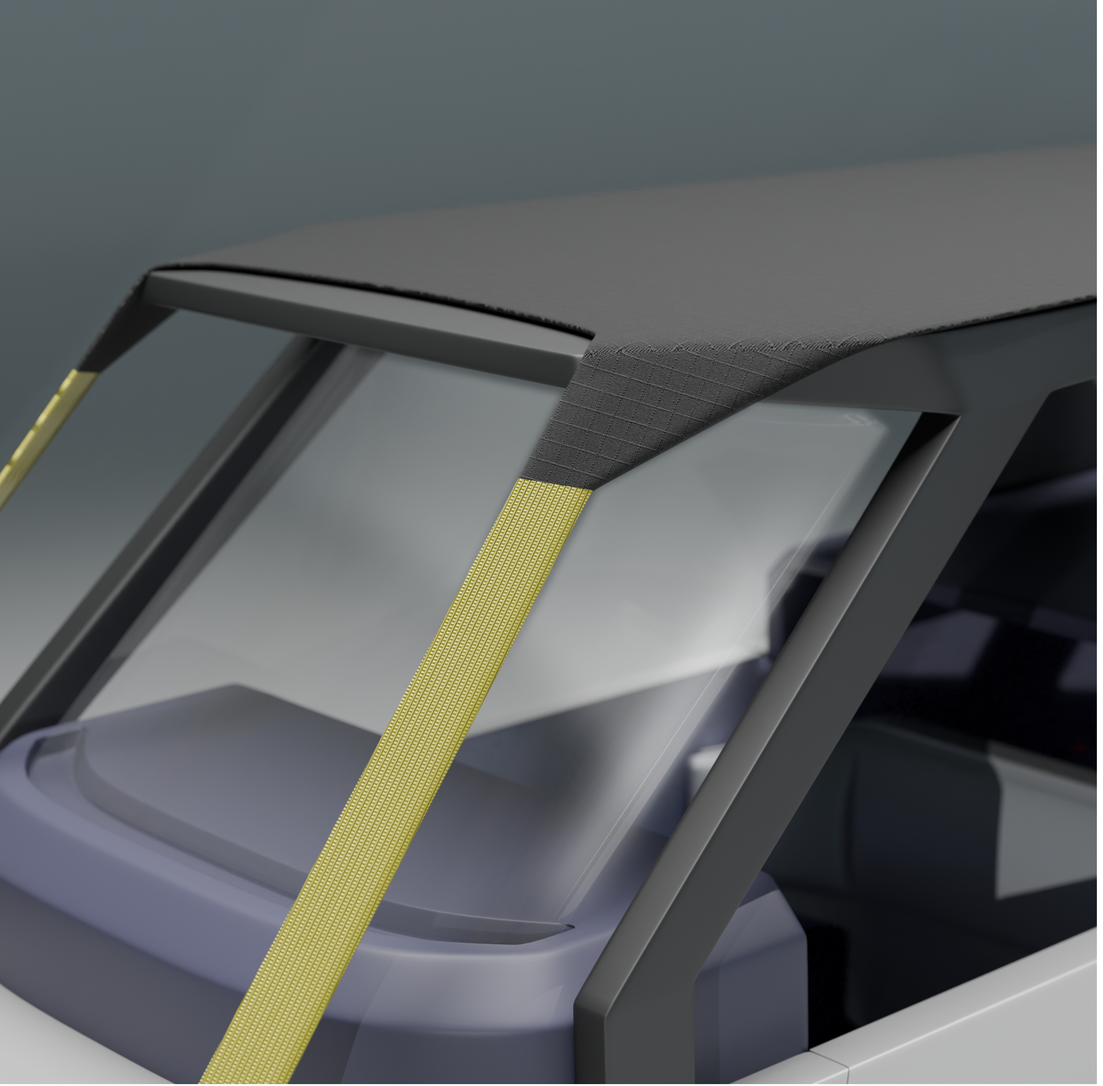


Storage space in door

Cockpit



Steer by wire steering wheel inherits all controls to drive the vehicle.

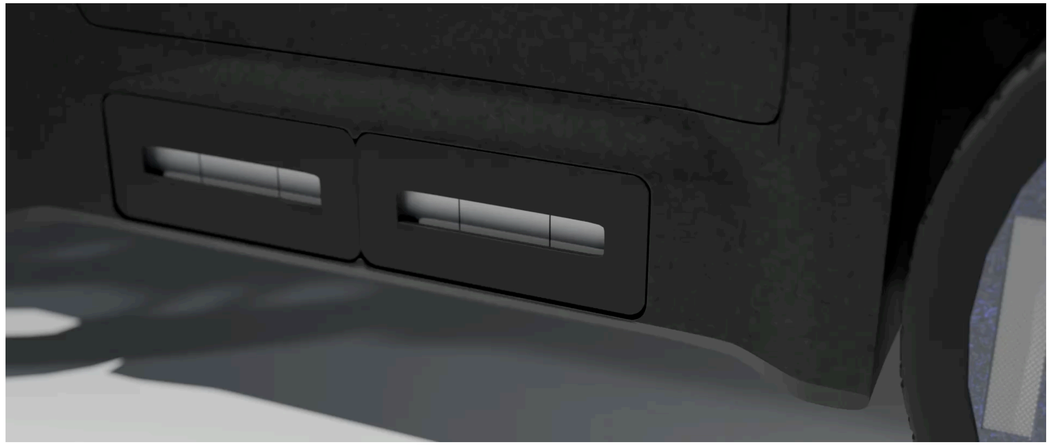


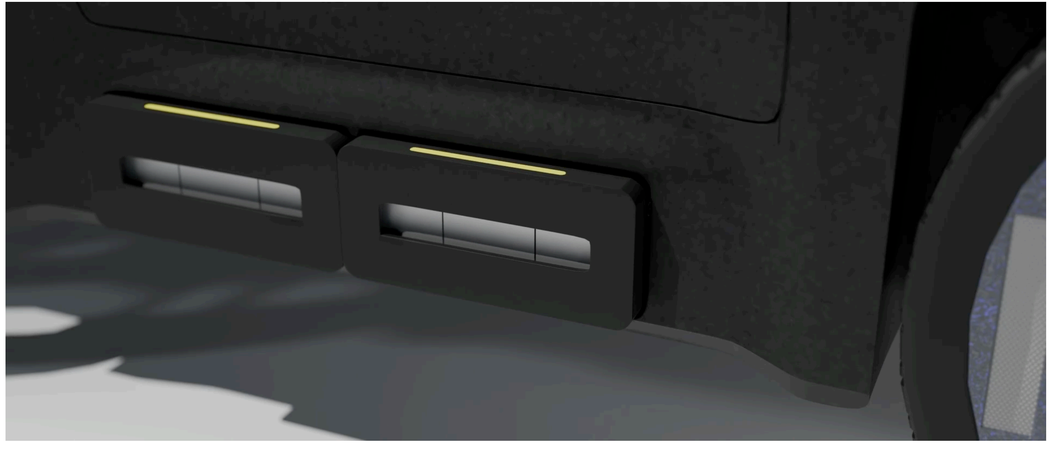
Convertible Top

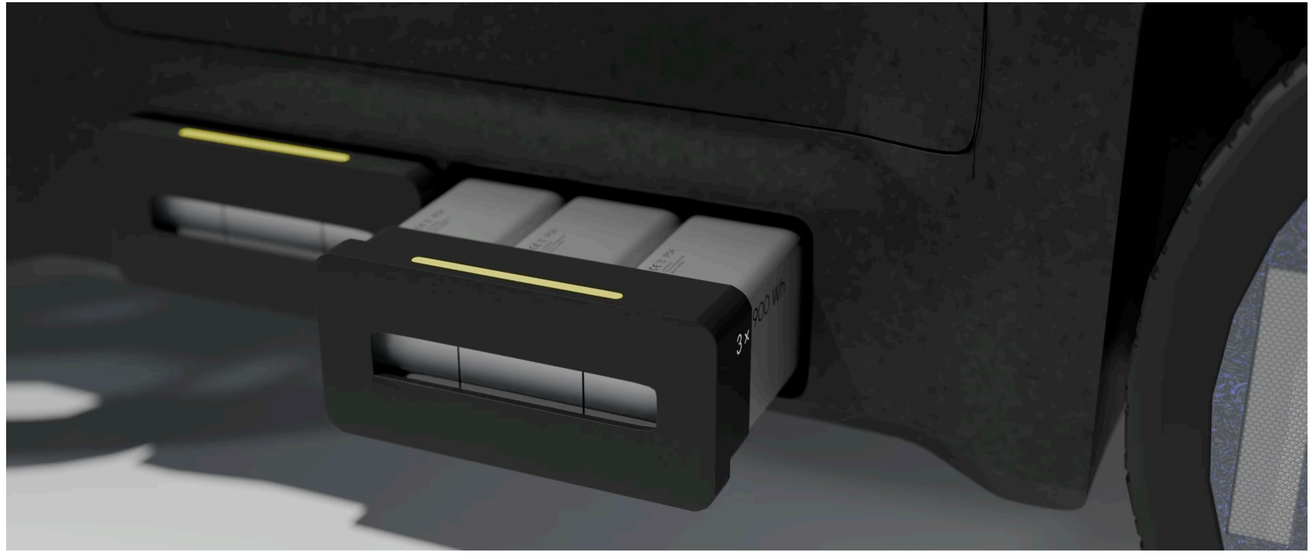


Eliot Fun Type has a convertible top and windshield for rainy days

Battery Eject







The six batteries are grouped into two carry frames for recharge at home. Individually they can be used for other purposes e.g. an e-Bike.



Weather Protection when parked


FUN!
Right sized vehicle for bike infrastructure



Just Park anywhere

No need to worry about securing your vehicle


Shopping Aid
No need to re-pack or carry



Picknick with cool drinks

Mobile Barista in Park

New Possibilities of Transport

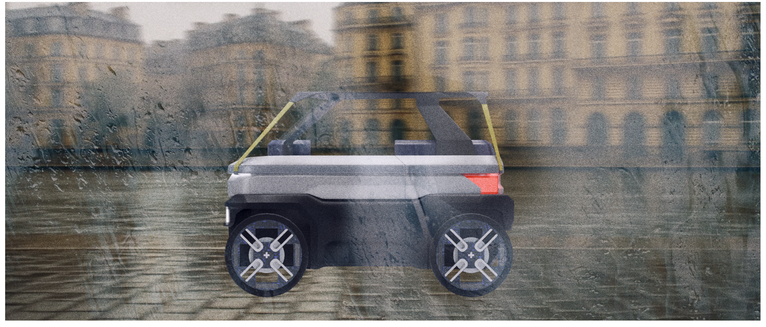




Parking in tight spaces

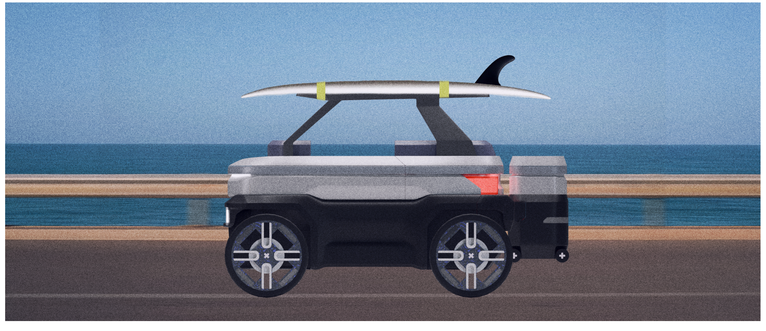


Eliot can be parked extremely space efficient in narrow spaces. The design allows to exit the vehicle first and push it like a drawer into the parking space.









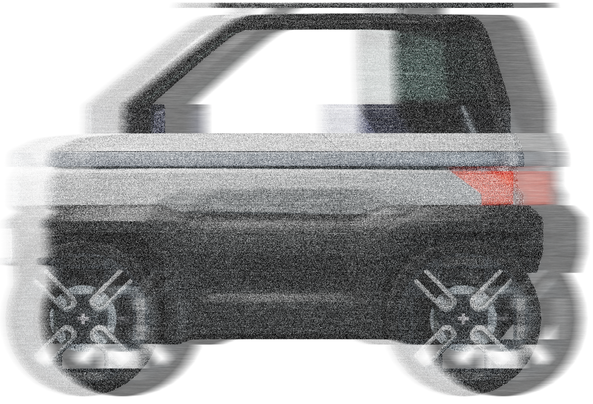




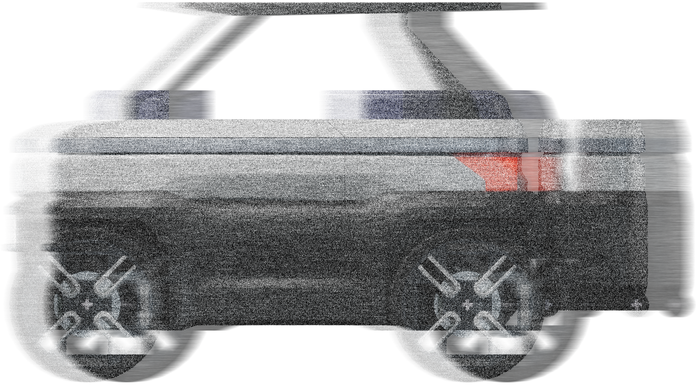
Make it yours!

Modular Package allows for individual configurations.

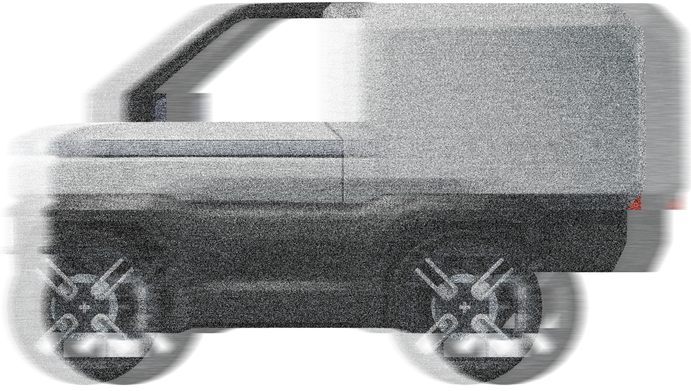
Family type



Fun type



Utility type



Whats your type?