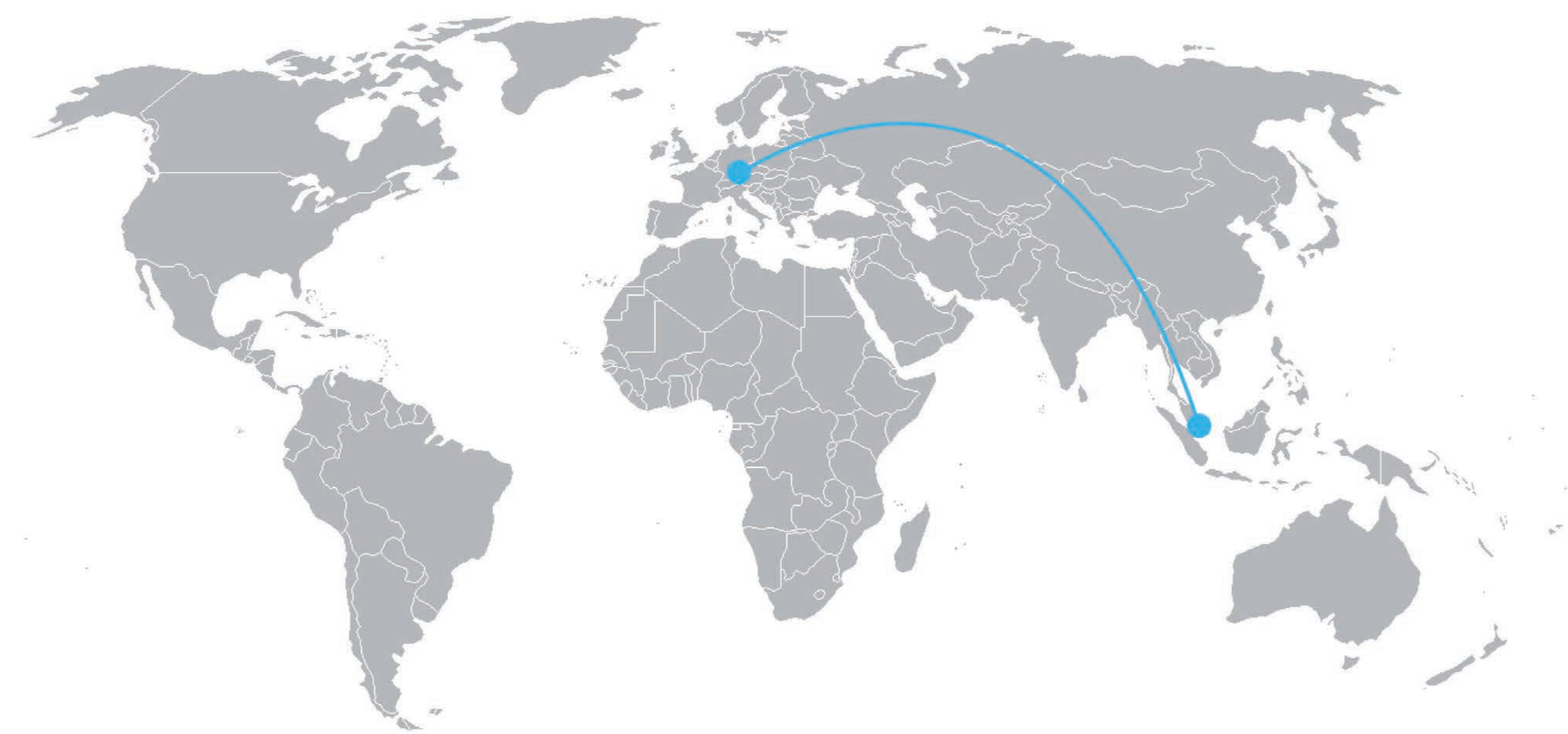


MISSION STATEMENT WORK LIVE PLAY



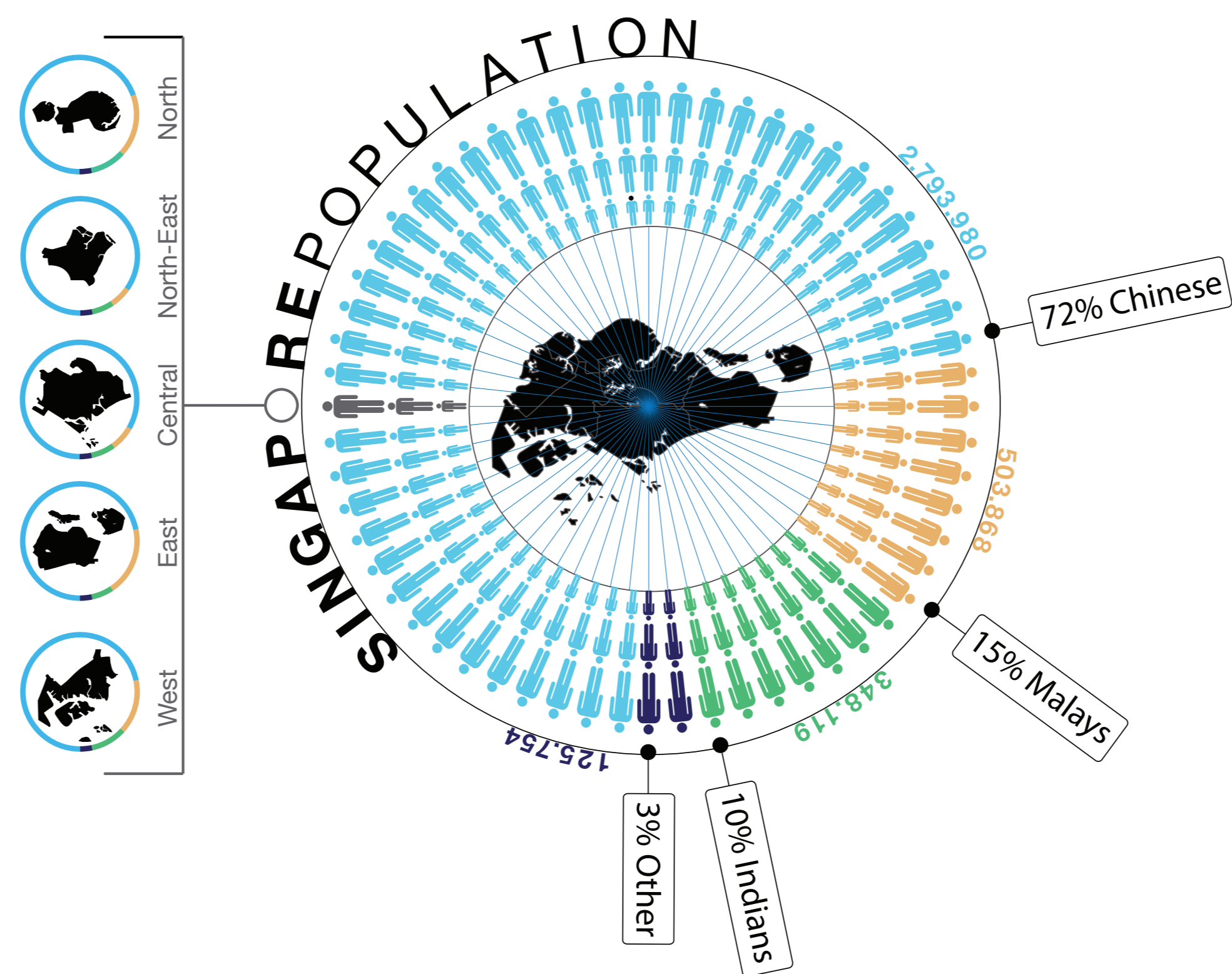
FUTURE MOBILITY IN THE METROPOLITAN AREA OF SINGAPORE



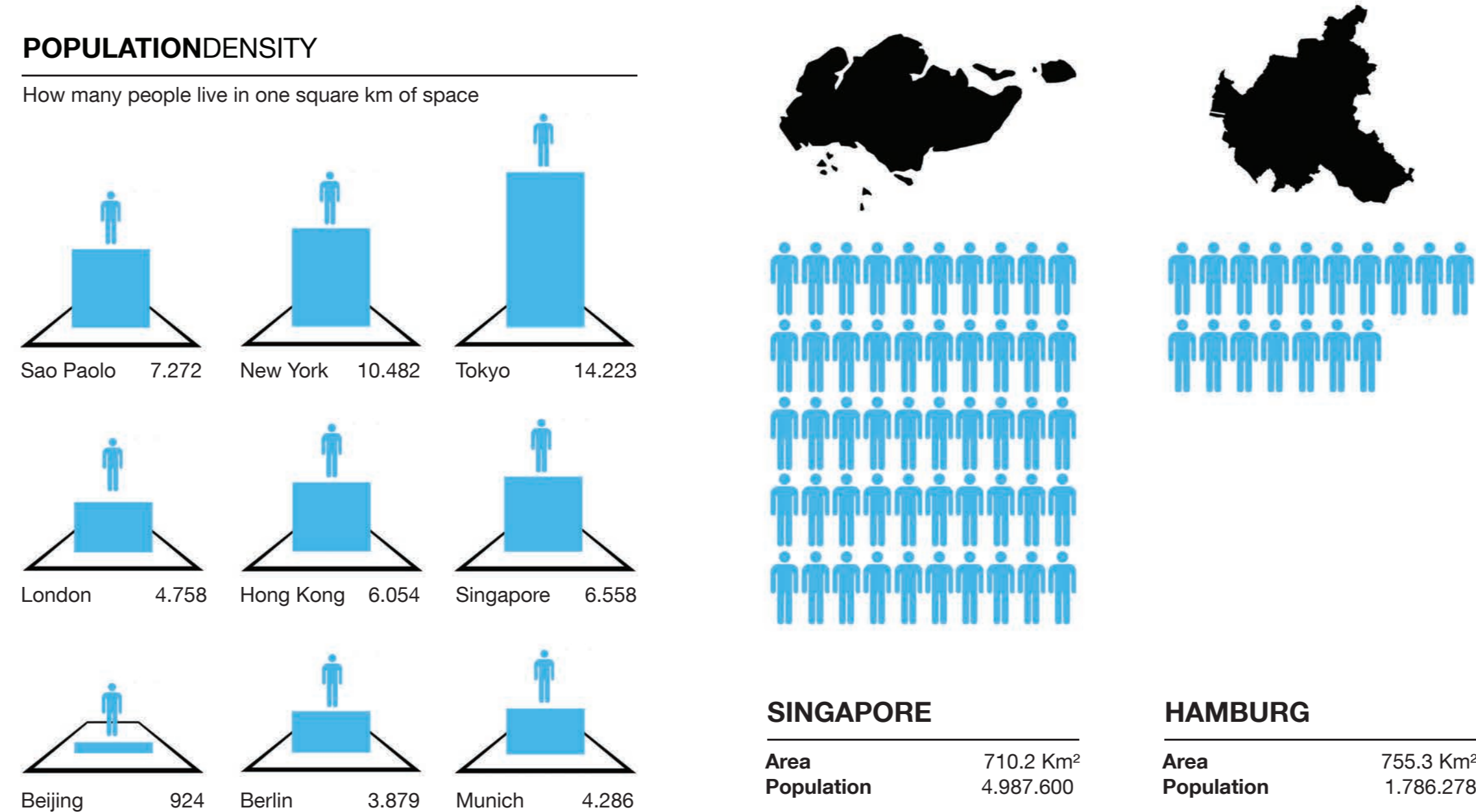
CURRENT DEVELOPMENT

As low performance infrastructure is becoming the limiting factor of rapidly growing megacities, ‚Gemini‘ introduces a whole product family, designed to fit the needs of future mobility. Developed by using the example of the compact, transport-oriented city state of Singapore, ‚Gemini‘ is bridging the gap of its future infrastructure plan - creating a complete integration of personal mobility in both the private home as well as Singapore’s expanding public transport, each sector working seamlessly with the whole system. By using Singapore’s unique social foundation of central allocated housing by the Housing and Development Board as a new instrument of ‚car sharing‘, ‚Gemini‘ is bringing together the resource saving benefits of shared infrastructure with the amenities of personal property.

POPULATION DISTRIBUTION



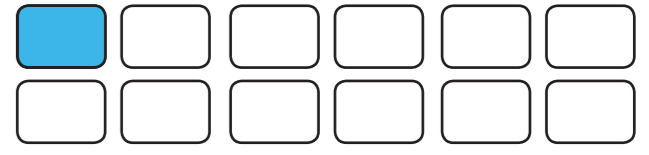
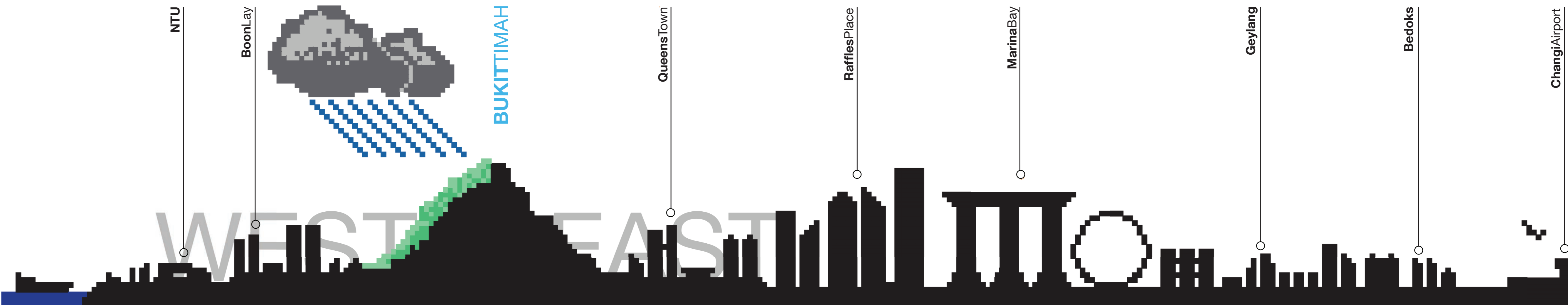
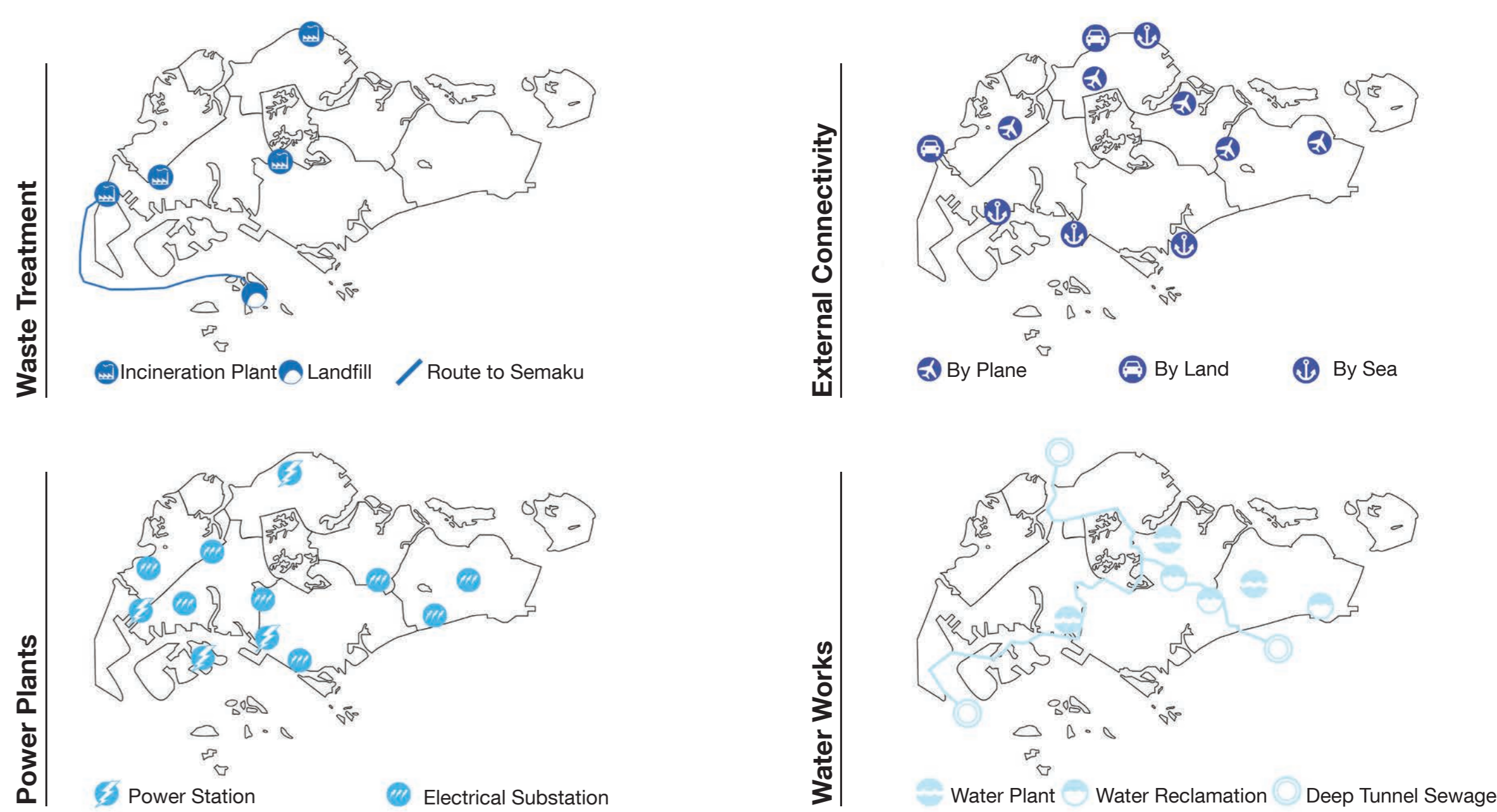
POPULATION ANALYSIS



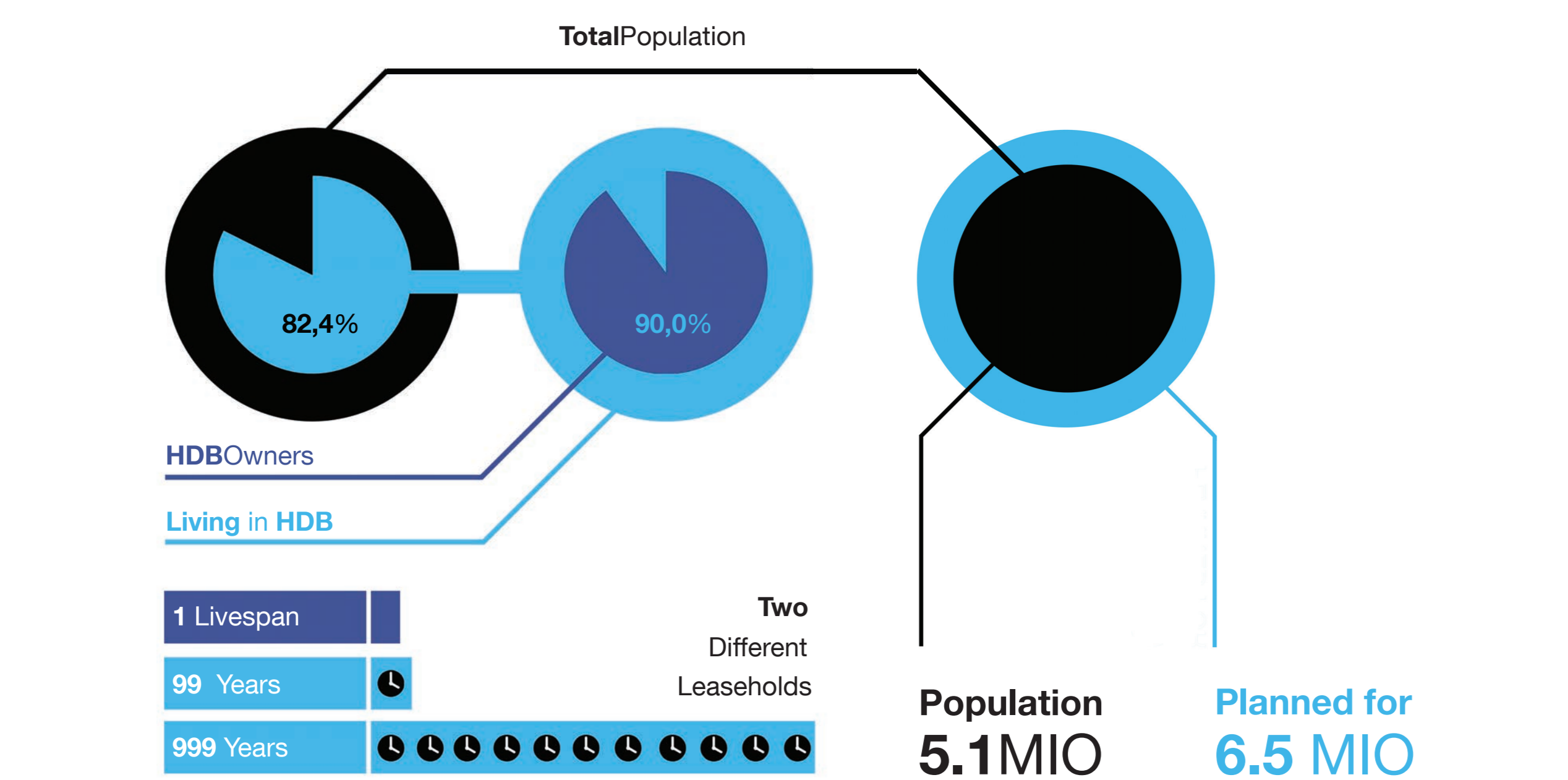
ABSTRACT SECTIONS



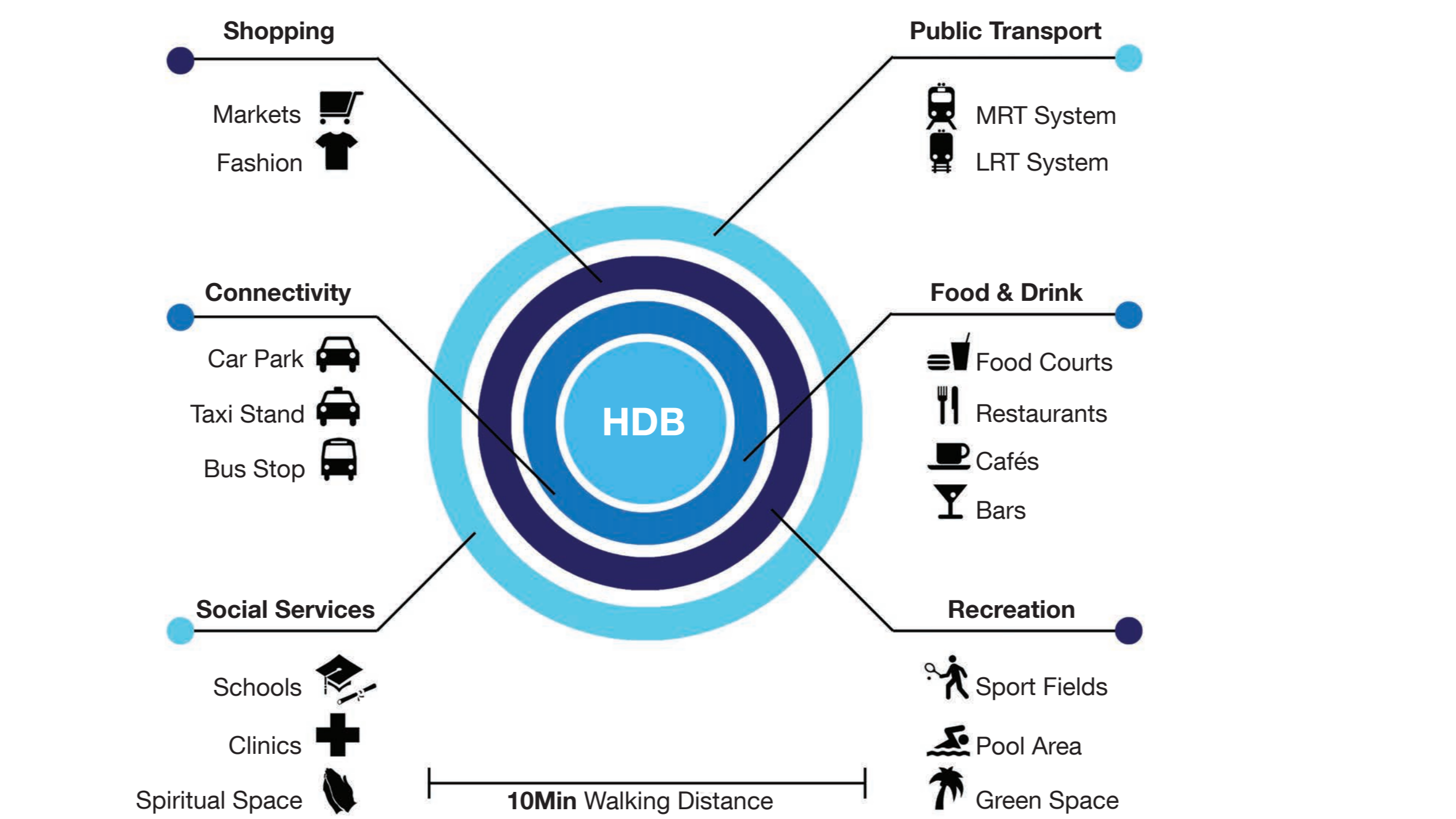
UNIQUE PLANNING



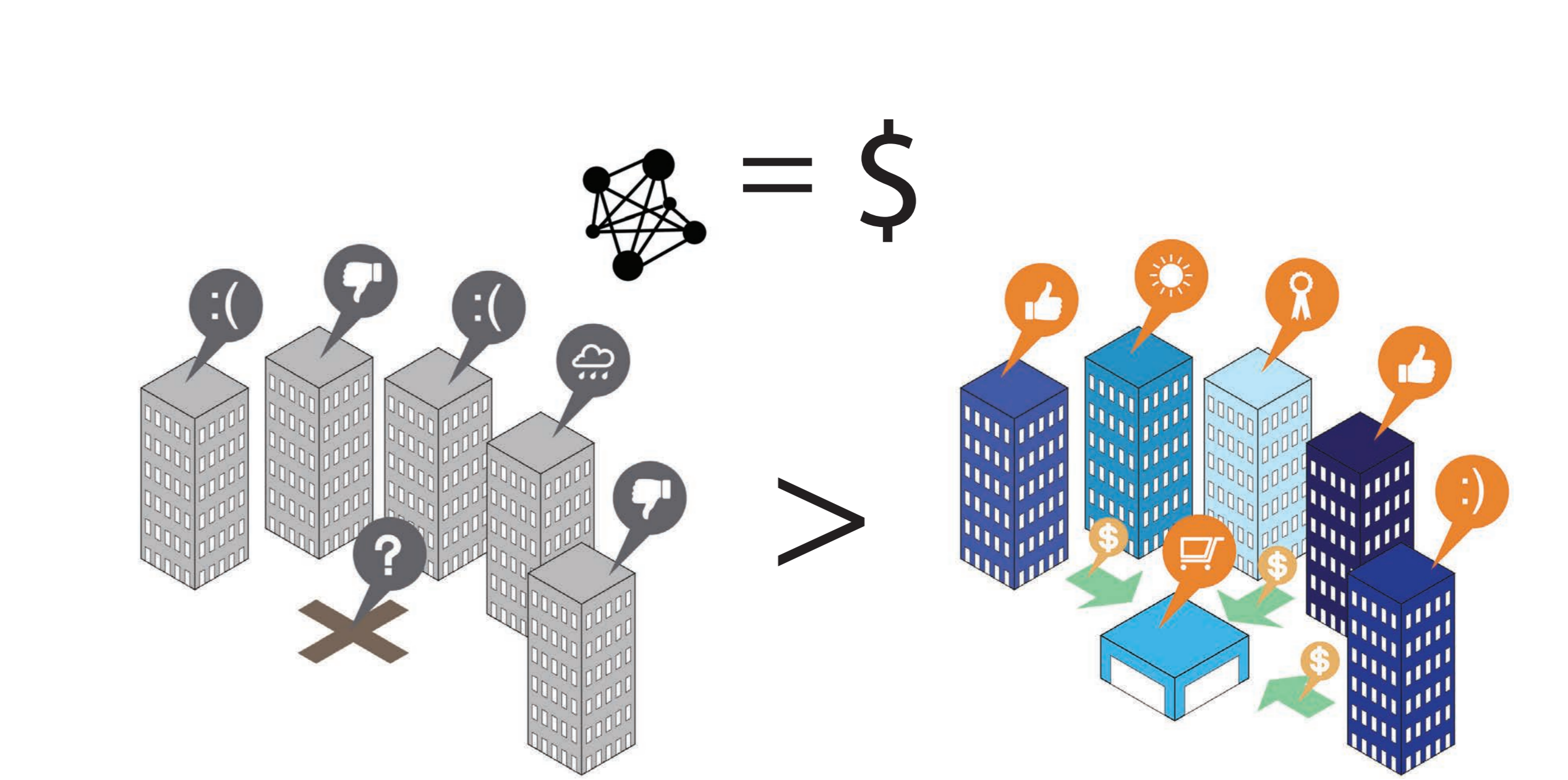
HDB OWNERSHIP



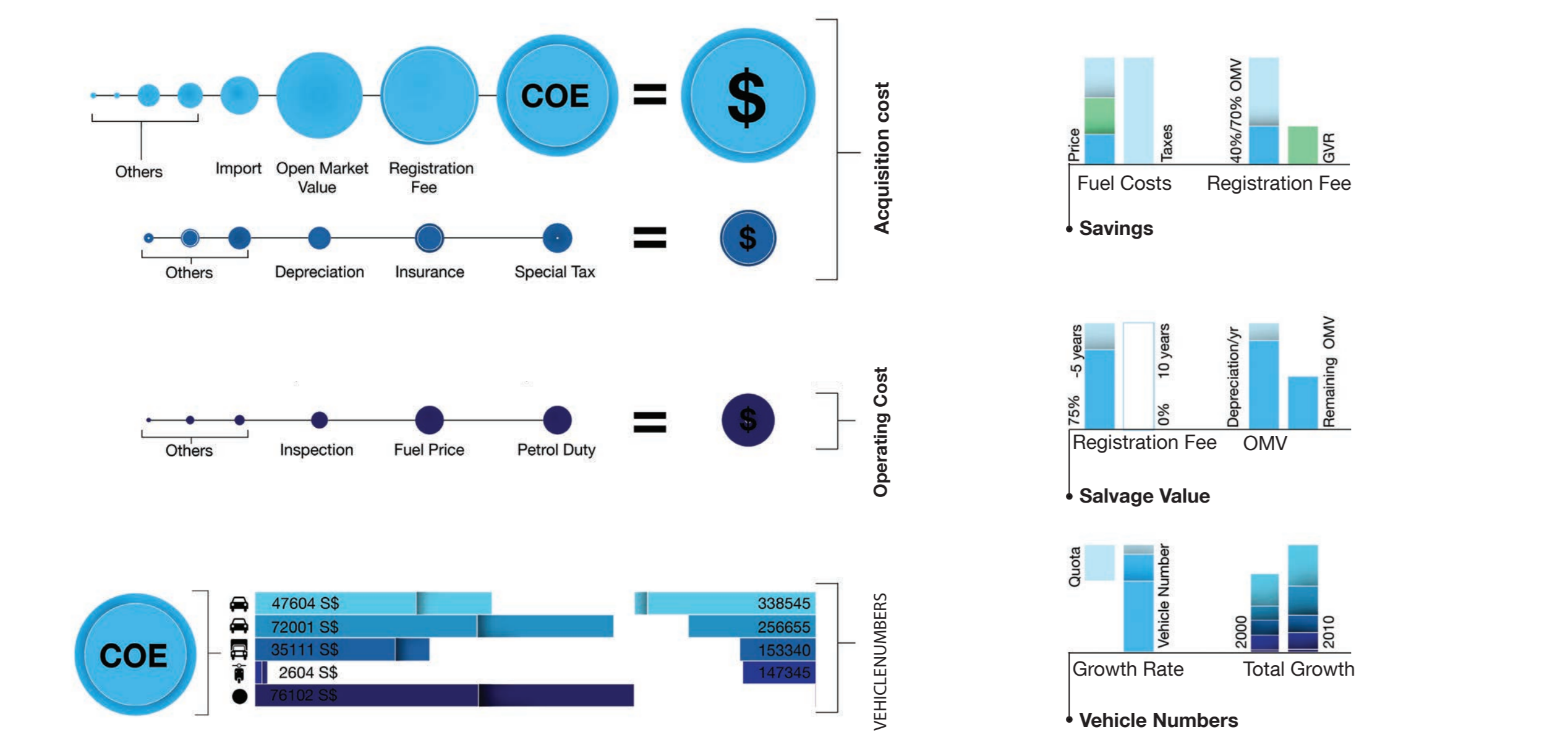
HDB PROGRAM



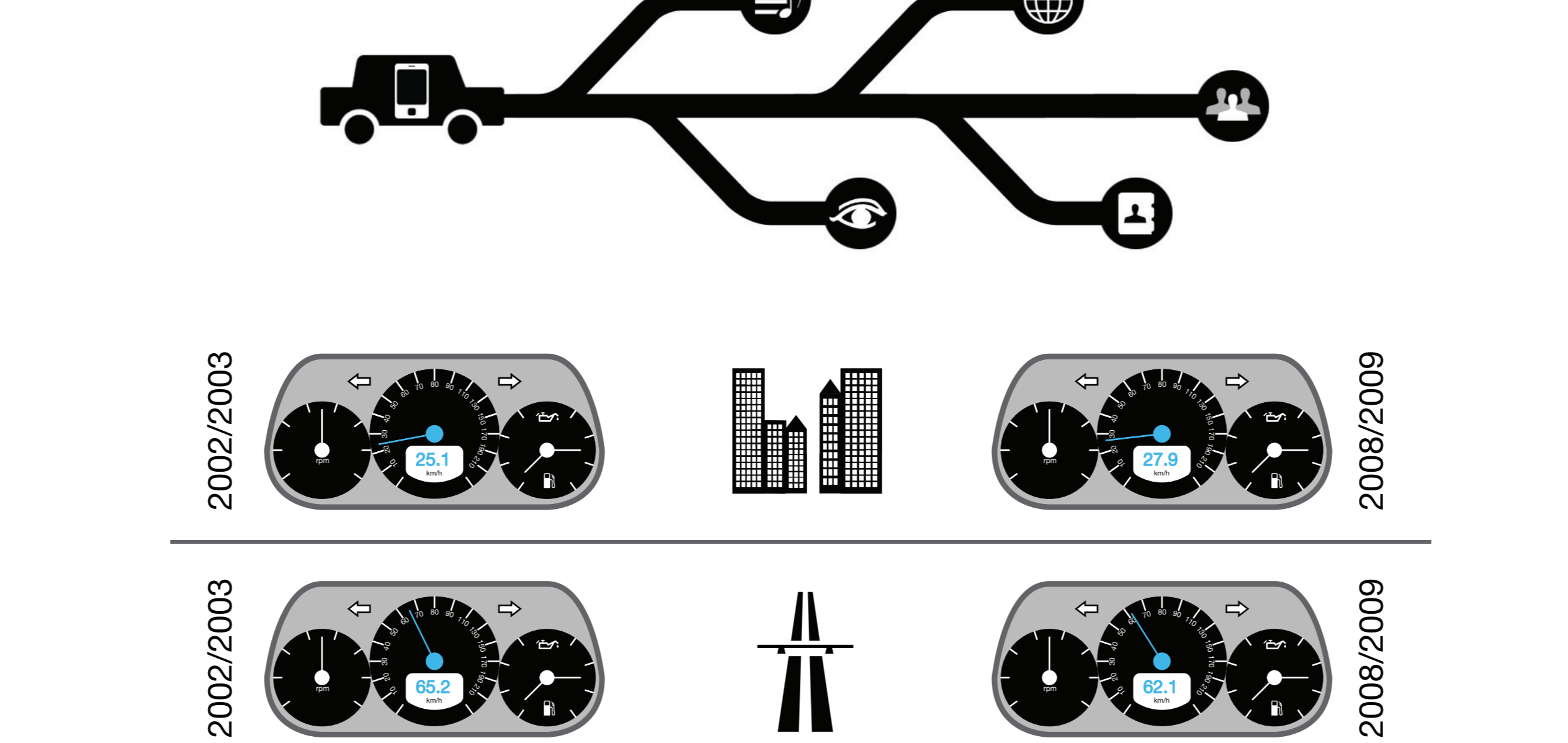
HDB COMMUNITY EXPANSION



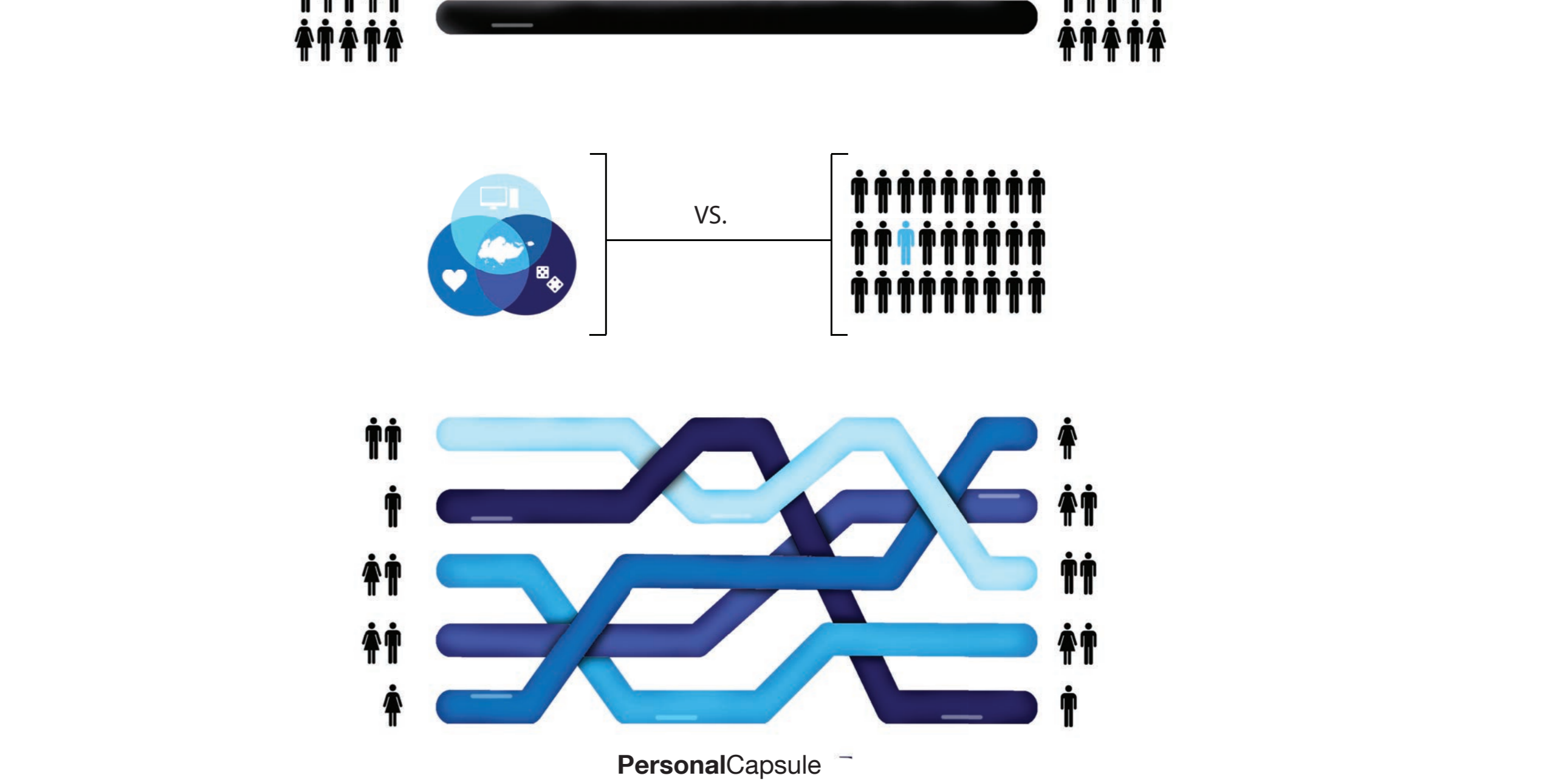
PRIVATE VEHICLE COSTS



REDUCED CITY SPEEDS



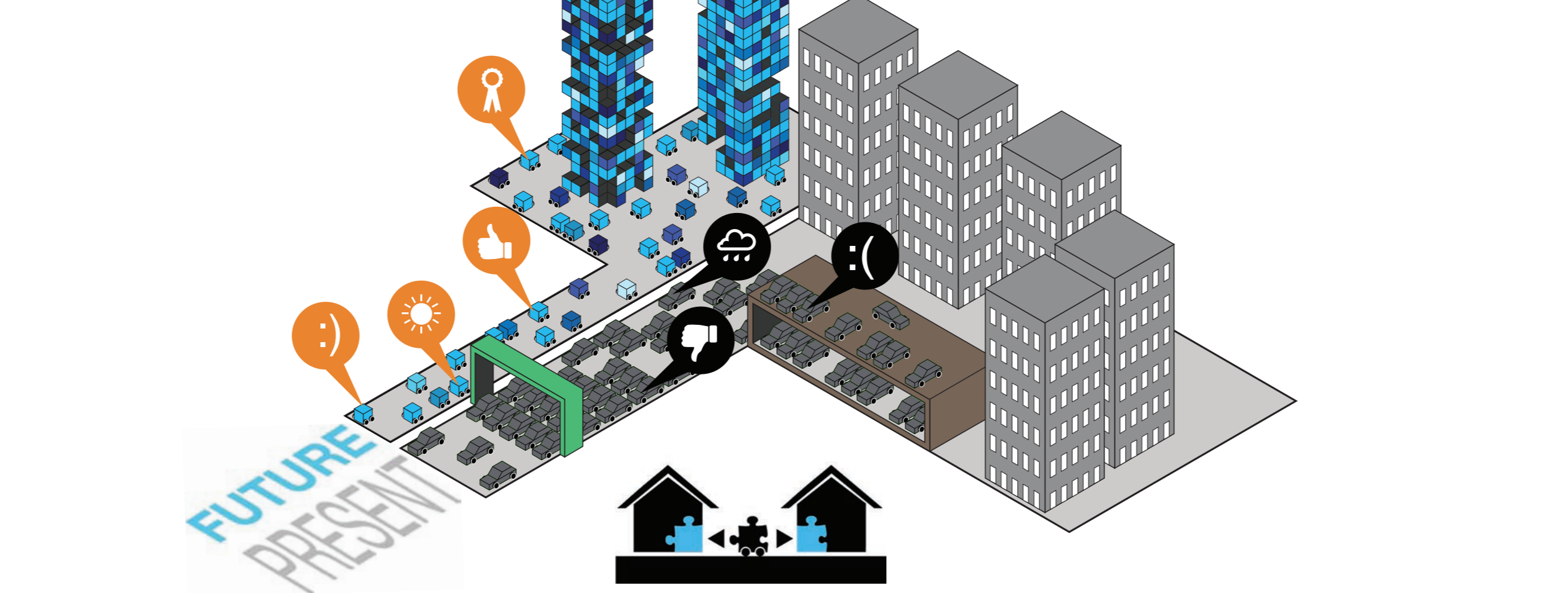
HIGHLY INDIVIDUAL TRANSPORTATION AS MARKET OPPORTUNITY



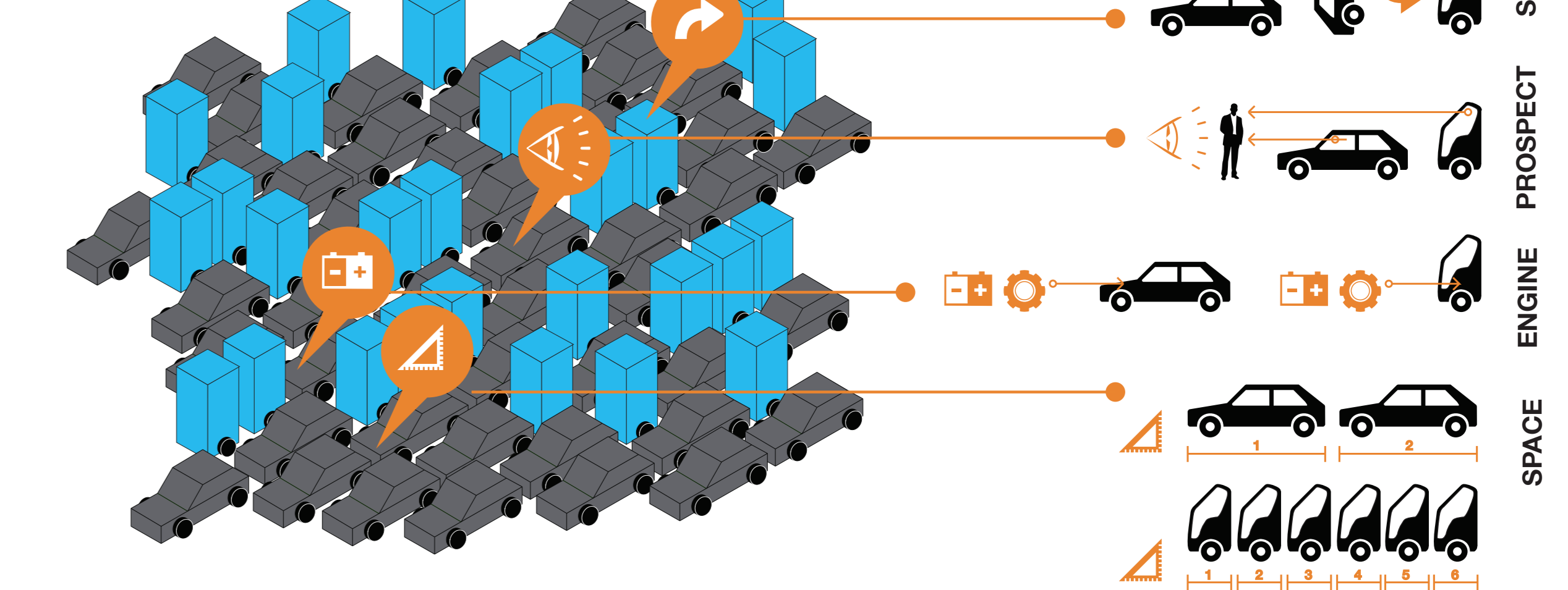
MODES OF TRANSPORTATION



HDB CAR INTEGRATION AS OBJECTIVE



A NEW CAR TYPOLOGY FOR SINGAPORE





可愛さ

Kawasia | Icons and Idols

Frequent use of iconography in all circumstances is a trend all over Singaporean life. Originally deriving from Japan, Kawasia or cuteness has become a prominent aspect of popular culture, entertainment, behavior, and mannerisms. The term kawaii has taken on the secondary meanings of 'desirable' and 'charming'. The island's inhabitants show a huge fascination for transformation, robotics, manga, anime and playfulness.



身份

Emerging Subcultures

With the increasing wealth of Singapore's population, a new generation of sophisticated Singaporeans arise in the island state; less influenced by Western archetypes and moral concepts than the generations before them - trying to reconsider Singapore's current social concepts regarding housing, infrastructure, fashion, politics, gender roles, community, education, government control and religion.



ゲーム

Gaming | Entertainment

Entertainment and Video gaming is closely connected to Singapore's daily life. From the arcades in the countless shopping malls to the downloadable smart phone games played by a multitude of Singaporeans in the MRT, Orchard Road is a perfect example for the electronic omnipresence provided in the island's high density areas, nearly every house being equipped with building high Media Facades that bombards trespassers.



文化

Culture Clash

The melting pot of Chinese, Malay, Indian and British people create an own dynamic, reflected in the island's clash of cuisine, ethnics, religion, language (Singlish being an English based creole language) and arts. Singapore maintains tight restrictions on art and cultural performances, most artistic works having to be vetoed by the government in advance, which are generally assumed to include sensitive topics.



定制

Product Customization | Zhng Cars

Enormous costs for licence, tax and COE make owning a car in Singapore an expensive affair, making owning an automobile a precious good. Due to this importance, the exterior becomes an expression of personal likes, taste and mental attitude while the interior, most notably the dashboard functions like a display for personal items and believes and gives an insight into the mind of the automobile's owner.



ن ت و ك

Transportation Singularities

Singapore's many ways of transportation may seem inconvenient and sometimes even unorganized. Most prominently the small and manoeuvrable buses that transport up to fifteen Malay workers to the city's construction sites, but also modified Rikshaws or Scooters are used to transport the sometimes not so small goods to their destination. A popular way for shoppings are do it yourself assembled trolleys and caddies.



建屋发展局

Housing and Development Board

Facing serious problems in housing shortage, the Housing and Development Act was passed in 1960. The typology of the flat was chosen due to land constraints, high-rise and high density on the main island. Housing of different income and ethnical groups were mixed together to prevent social stratification. Public housing precincts form clusters of blocks arranged as a collectively grouped single unit.



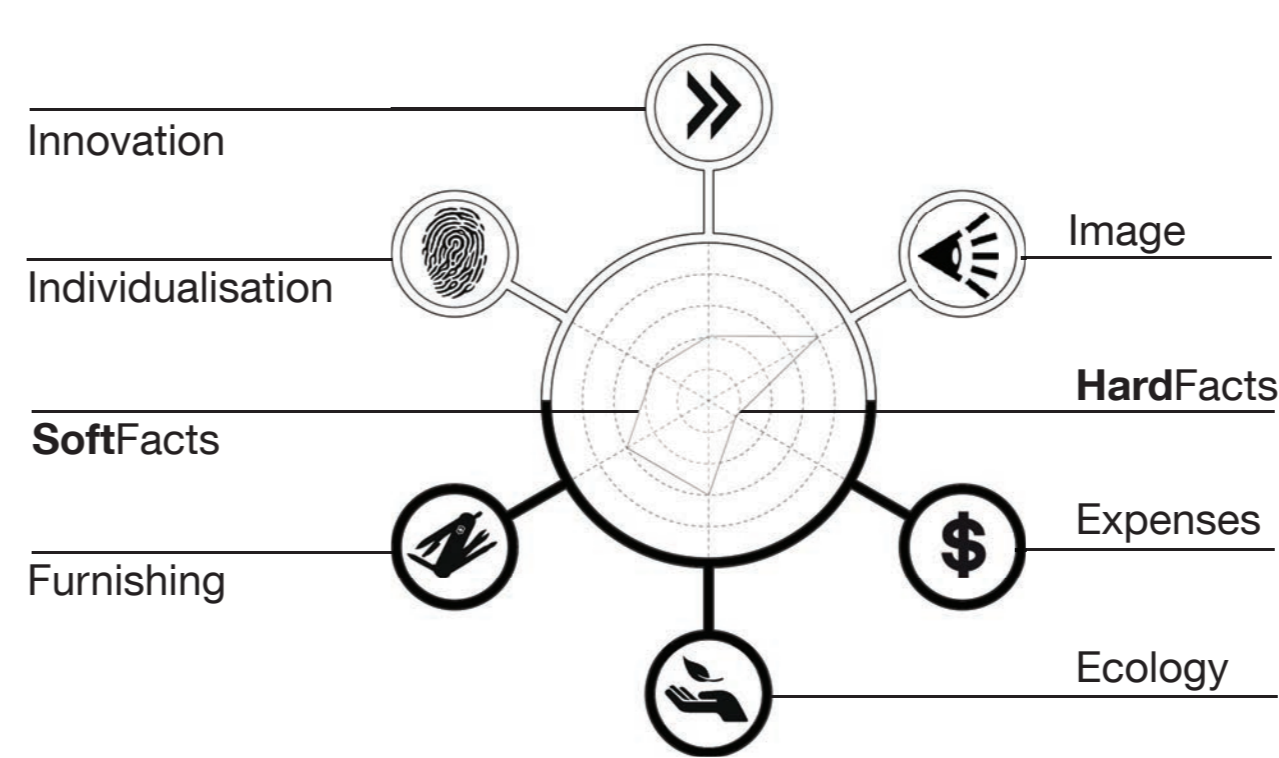
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Religious Life | Communités

Singapore is a secular immigrant country, a melting point of a variety of nations and their religions - the main religions being Buddhism, Christianity and Islam. In this megapolis the many religions compete with each other actively and try to build up and enlarge their own communities to gain more political and social influence, showing a strong presence in daily life with frequent shrines and temples.



USER PROFILES



THEKIASU

Age 30-45 | Household † +

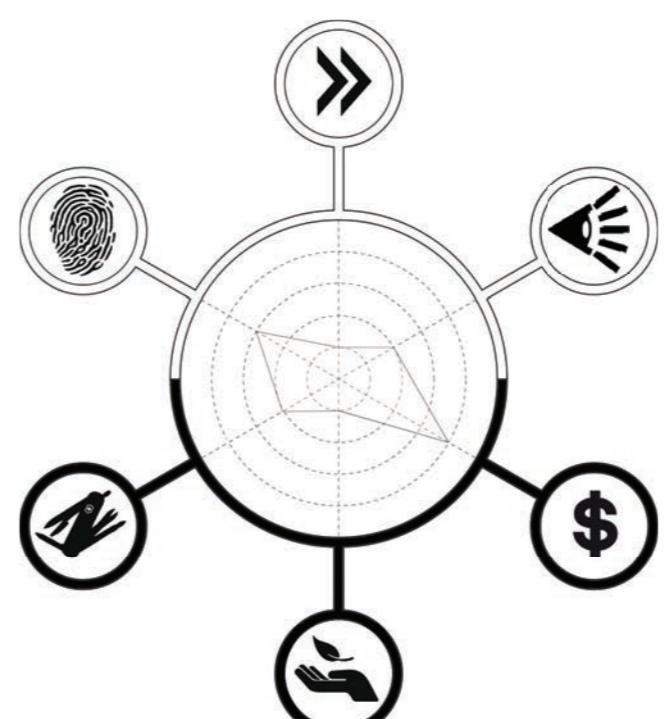
Signature Items



/kiasu/ n. & a. Hokkien (kia: fear + su: loss, one who is afraid of losing)

The Kiasu is aggressive in the bid to get what he wants, not to lose in a highly competitive society. He has the desire to be on top and wishes to enjoy and express his modest wealth without drifting into the purely luxury segment. Due to this, he takes an awareness

in the image of a brand and user experience out of enjoyment and satisfaction but still bases his fundamental decisions on economic objectivity and measurable values. His views show an affinity to western, often capitalist, values.



THEAHCHECK

Age 40-60 | Household † ++

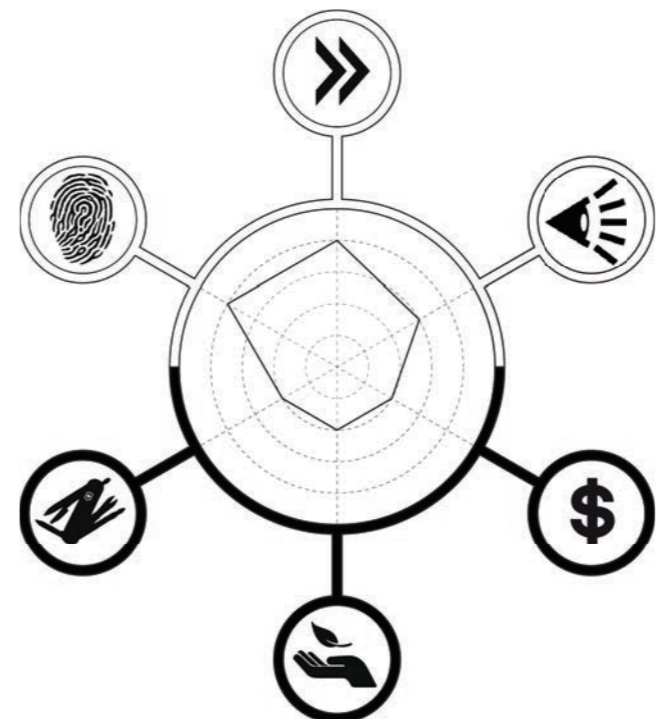
Signature Items



/chek, tSEK/ n. Malay (uncle, a father's & mother's brother, middle-aged man)

The Ah-Check has a strong connection to traditional values and mystik. He sees customisation not as a form of expressing himself but choses it out of comfort; seeing the interior of his car as an extension of the private space of his living room. Using it as

such, he's bringing private belongings for a 'feel good' atmosphere. He prefers a quick and easy to understand interface to number of functions; his buying decision is based on economic, not ecologic factors.



HARAJUKUKEI

Age 20-35 | Household †

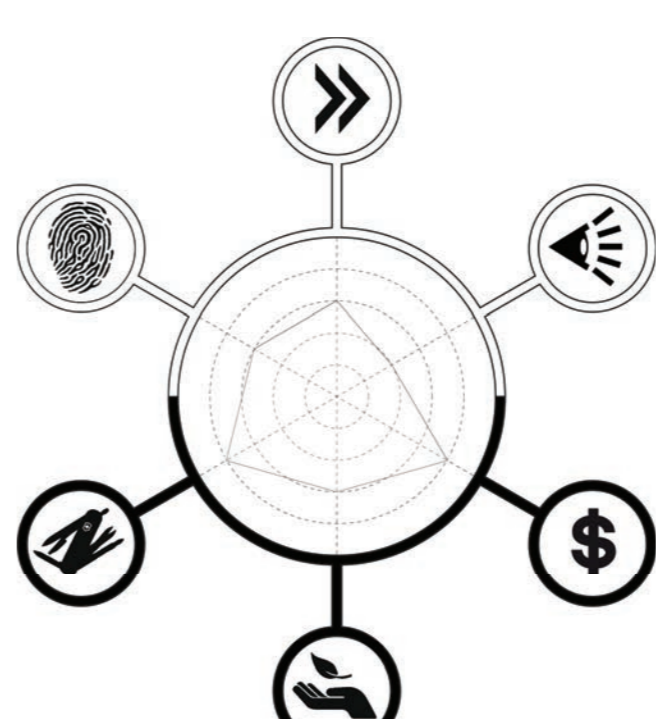
Signature Items



harare/zukku: kay/ n. Japanese (Harajuku: area in Shibuya, Tokyo; Kei: style)

Within the last decade, there's been a growth of a new generation of Singaporeans, looking for its own, new values apart from being stuck in tradition or copying western rolemodels. The Harajuku-Kei is looking for innovation and ways of expressing himself in

means of customization and individualisation, being unsatisfied with the current state of conformity in housing and mobility. He bases his buying decisions mostly on soft factors, led by emotion and sympathy for a product; often being part of the first buyer group.



THEAHBANG

Age 20-40 | Household † ++

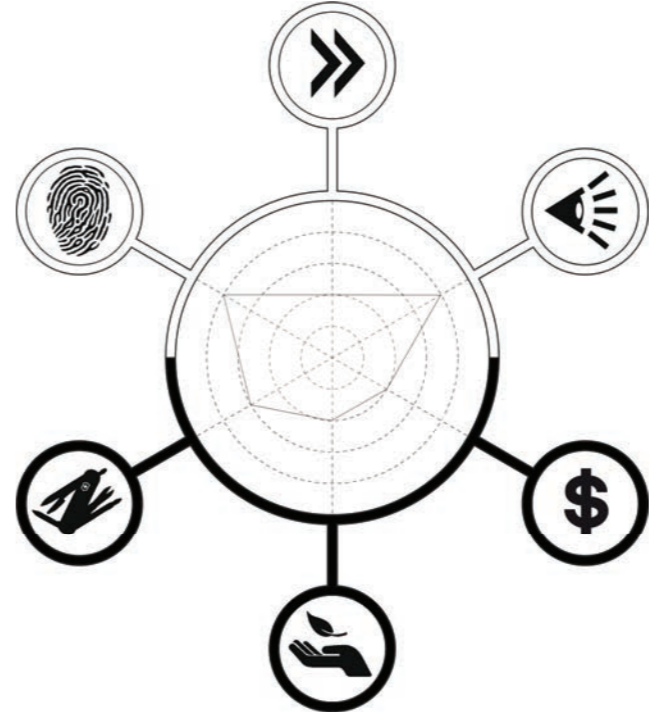
Signature Items



/aban/; n. Malay [brother, male sibling, relative or friend of one's own generation]

He doesn't look at his possessions as an externalization of his personality; and therefore takes no interest in visible customization of a product or image of a brand. Instead of exclusiveness, he has the need of a flexible,

reliable equipment and strong safety features and spacious storage when it comes to mobility. He's not taking the role of a technical pioneer, but his environmental consciousness is developed.



THEAHBENG

Age 20-30 | Household ††

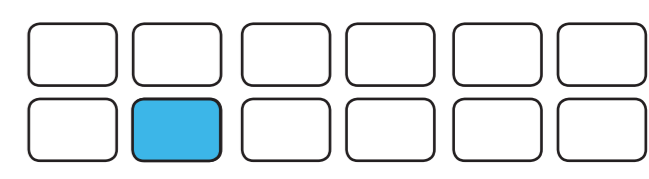
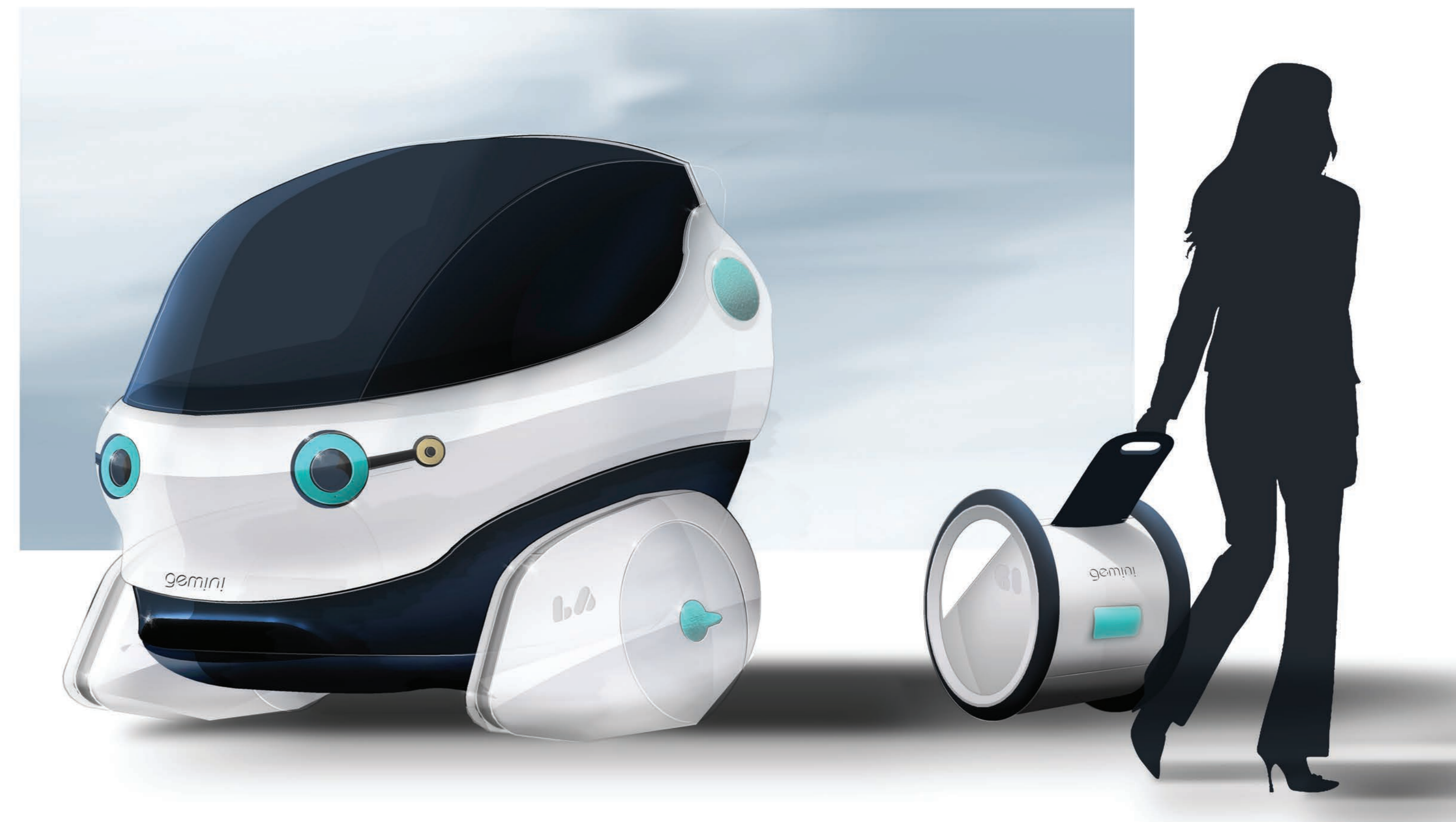
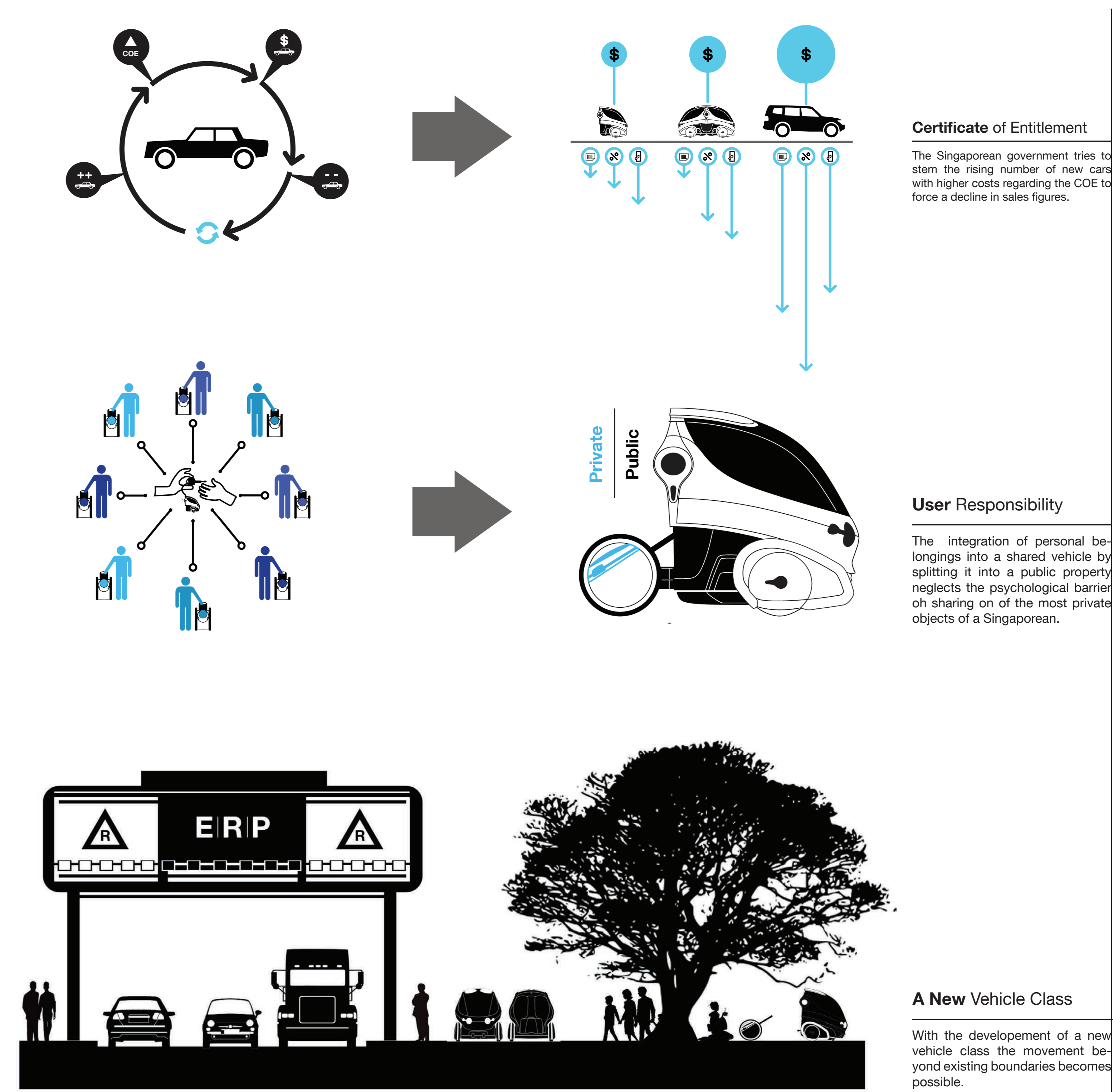
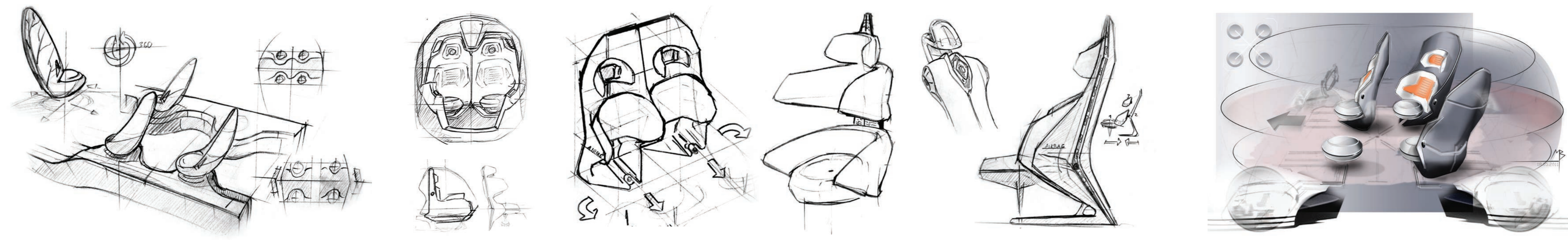
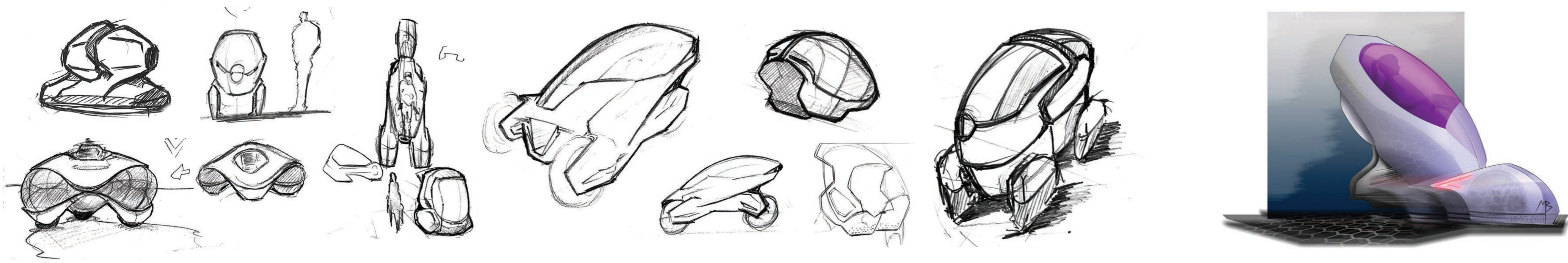
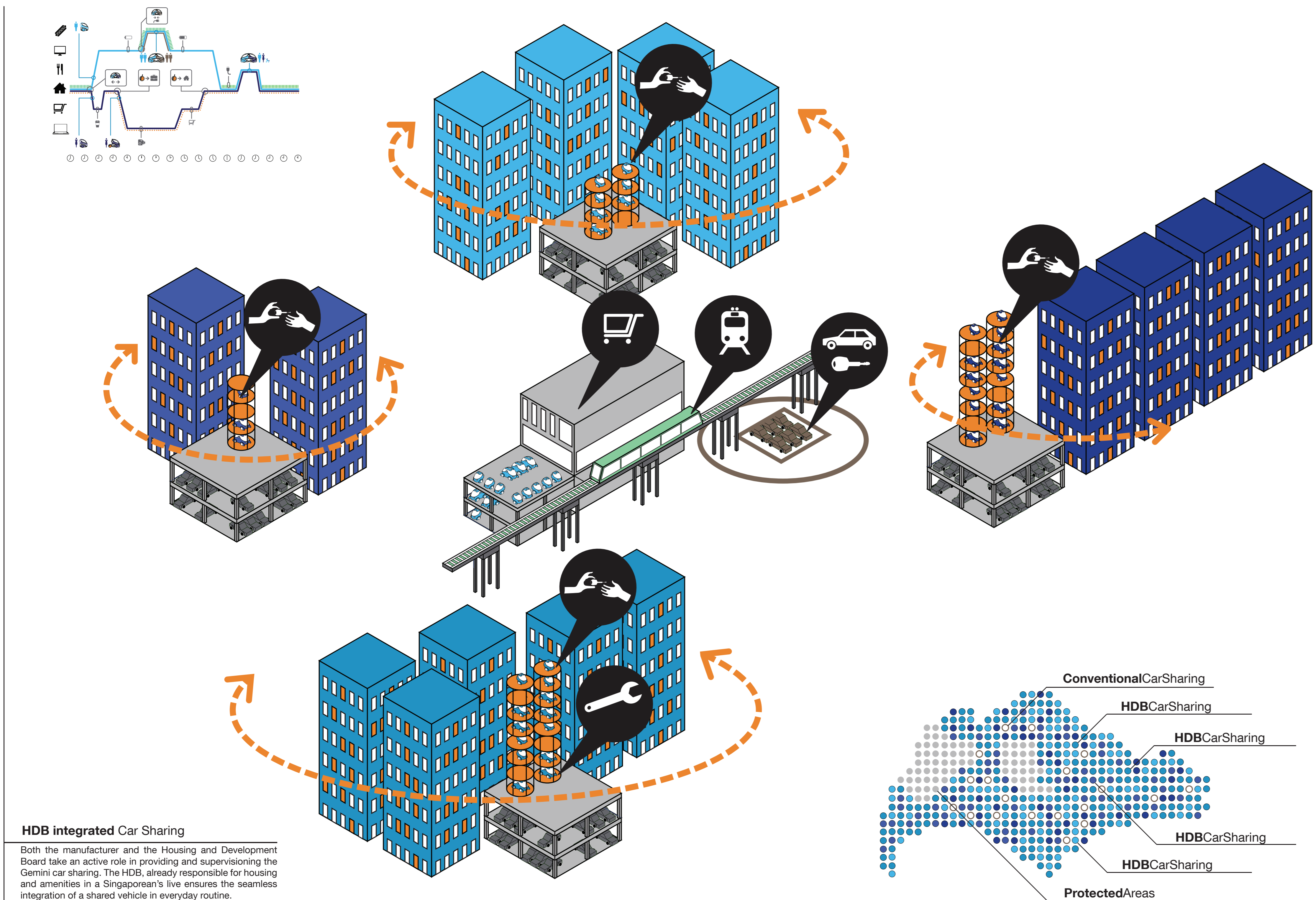
Signature Items



/beng, bEN/; n. & a. Hokkien [a common Chinese male name, poss.]

The Ah-Beng likes to present himself as excessively flashy, surrounded by flamboyant, colourful decorated things. What he may lack in sophistication, he shows in willingness to individualisation, therefore he is often

connected with modified or zhng-ed cars and has a strong liking to accessories as well as technical gadgets. His attitude might be regarded as superficial and materialistic, often interpreted as showing off.





Gemini /dzem'ni/ [Product family]

The image of Gemini, the twins, represents the main versatile principles of the vehicle concept: a unit formed out of two identical parts, two becoming one and forming something new. This theme is drawn through different design elements, both in interior and exterior - the arrangement on the roof is modelled after the symbol of the Gemini zodiac. While both units are identical when viewed separated on their own, they both generate a new entity as soon as they're placed together.



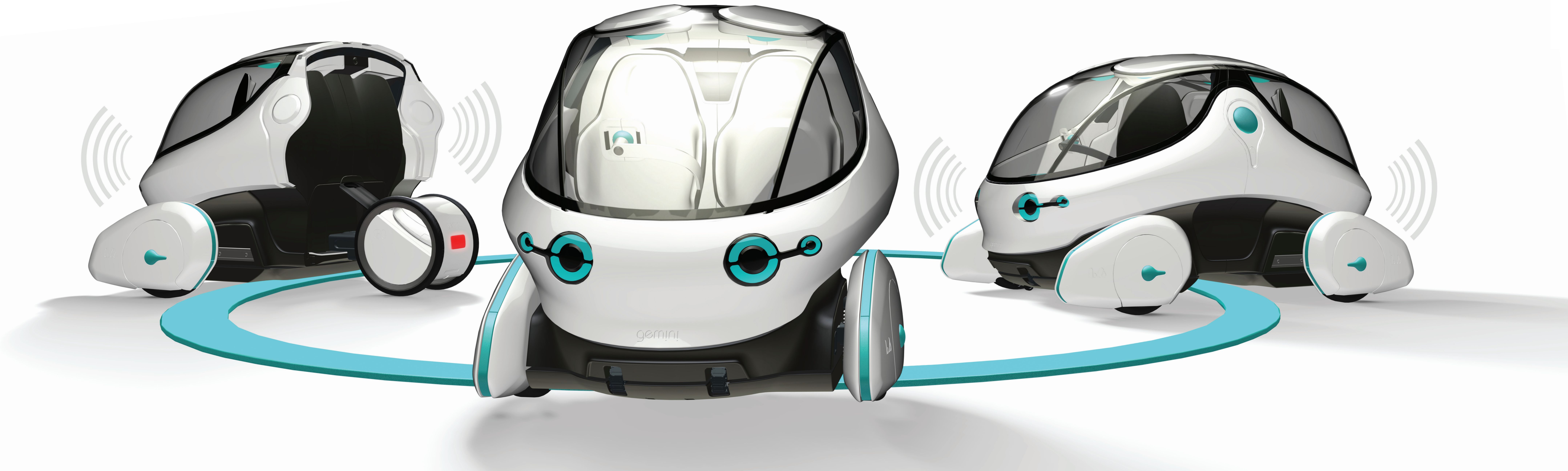
LA /lah, la/ int. [Gemini's main unit]

One of the most omnipresent words in the singlish slang is the syllable 'La', equating to the phonetic of an exclamation mark, an alteration of its Malay origin. It is used as a particle suffix to emphasize any word or sentence, like a constant companion of every statement that is meant to be accentuated and called into immediate attention. 'La' forms the basic unit of Gemini, merging into eponymous twins, 'La La' when docked together - it's entity being reflected in the doubled exclamation marks of Gemini.



LaGi /lah-gee, lagi/ a. [Additional functionality]

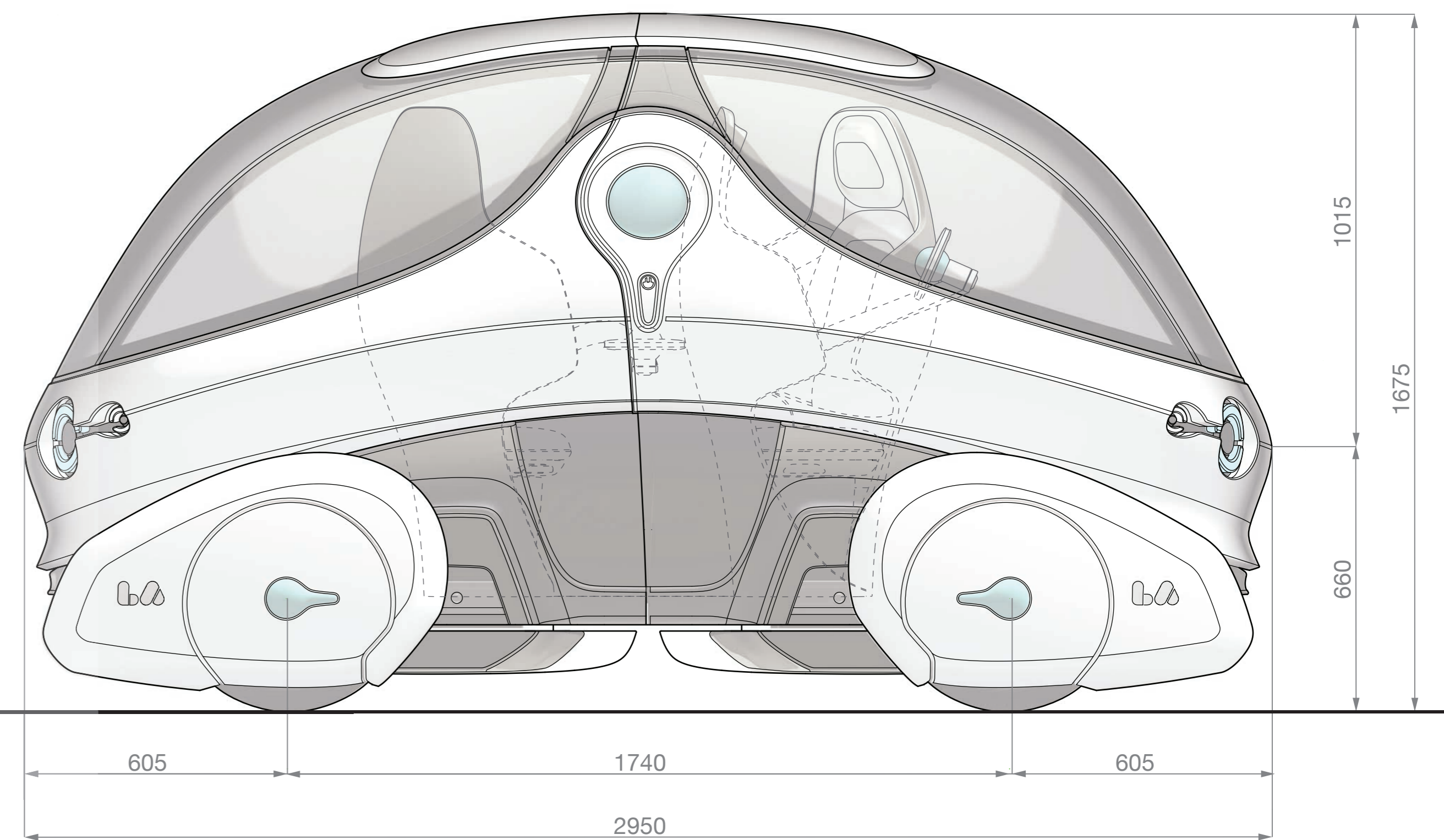
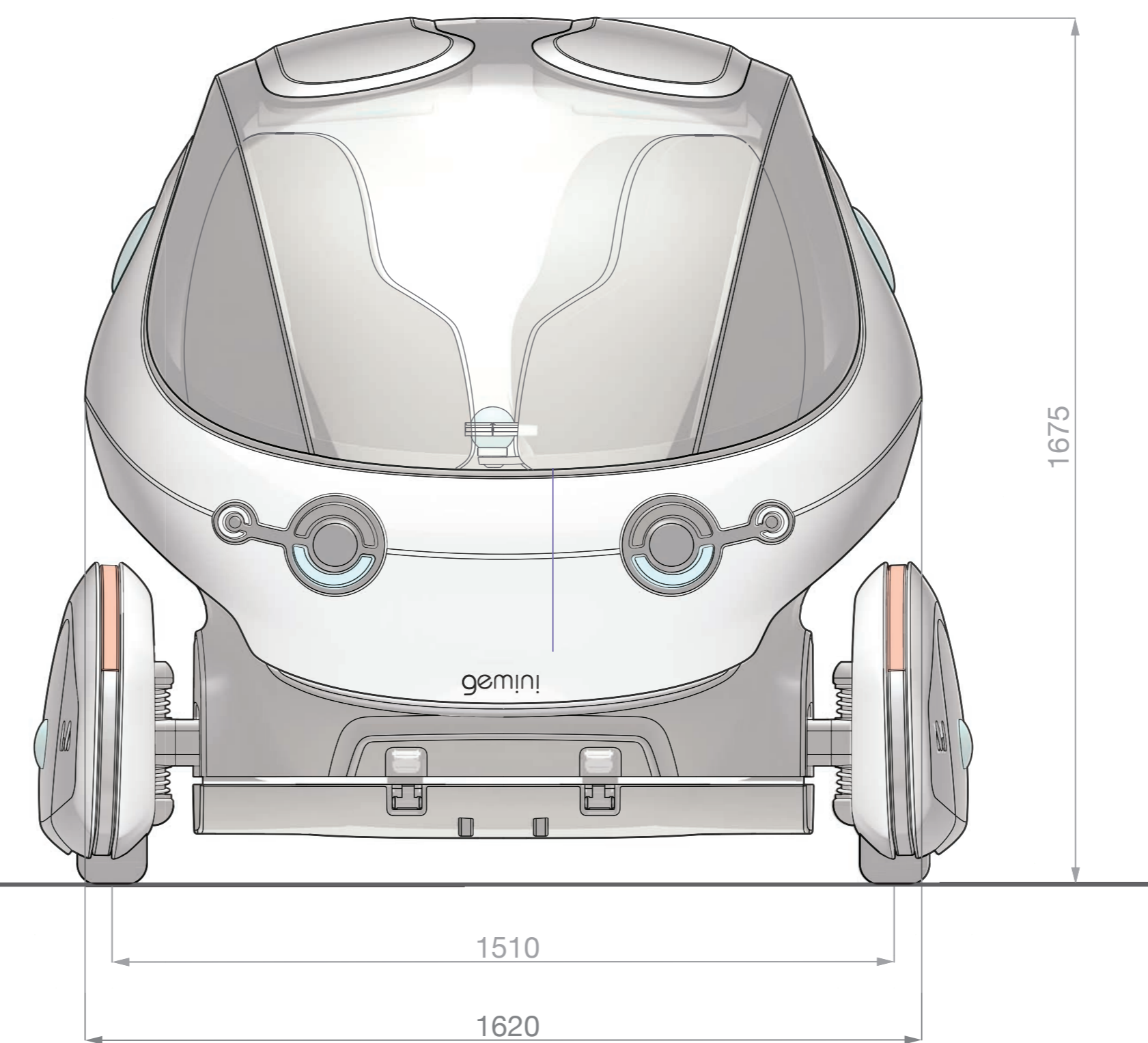
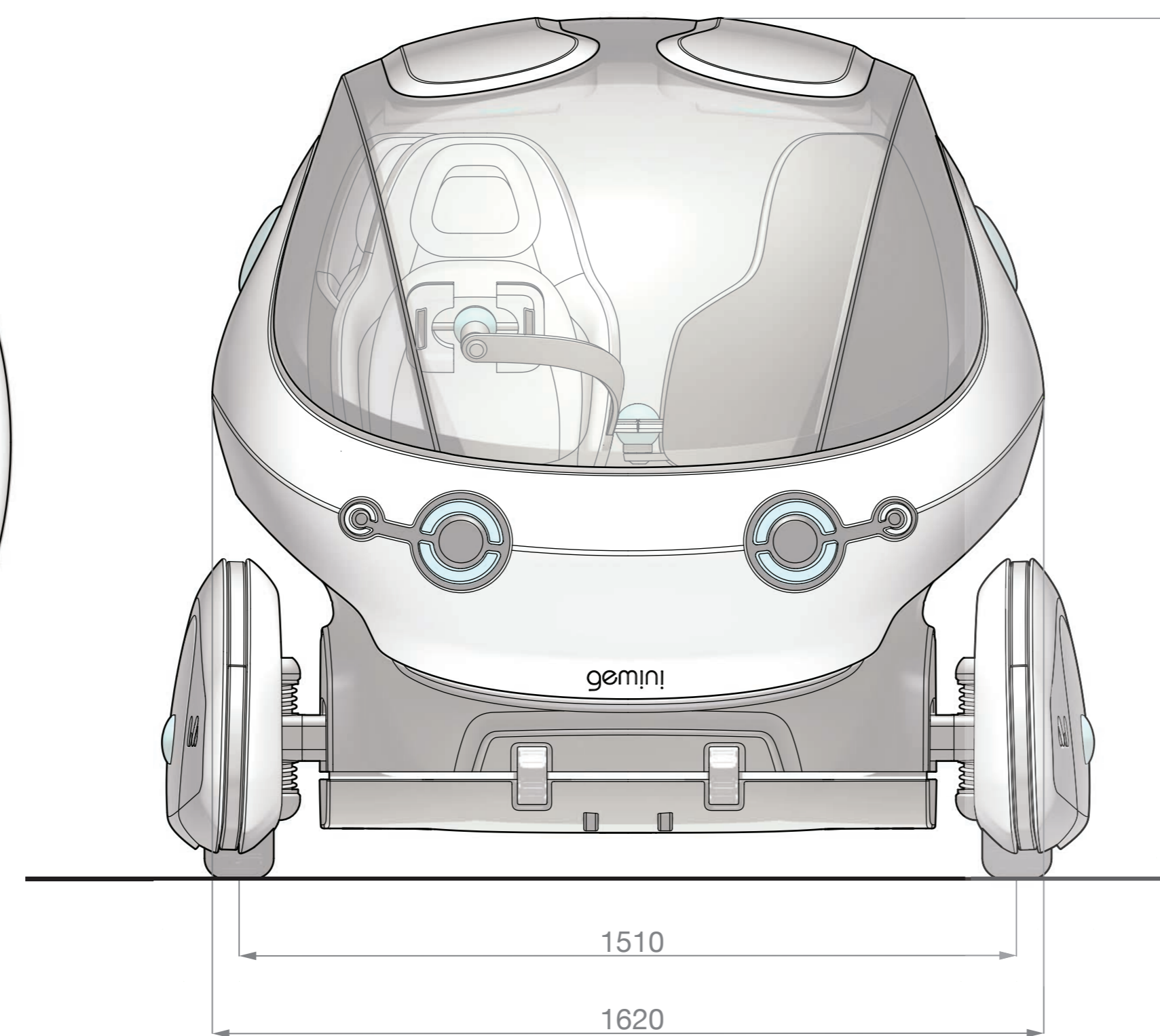
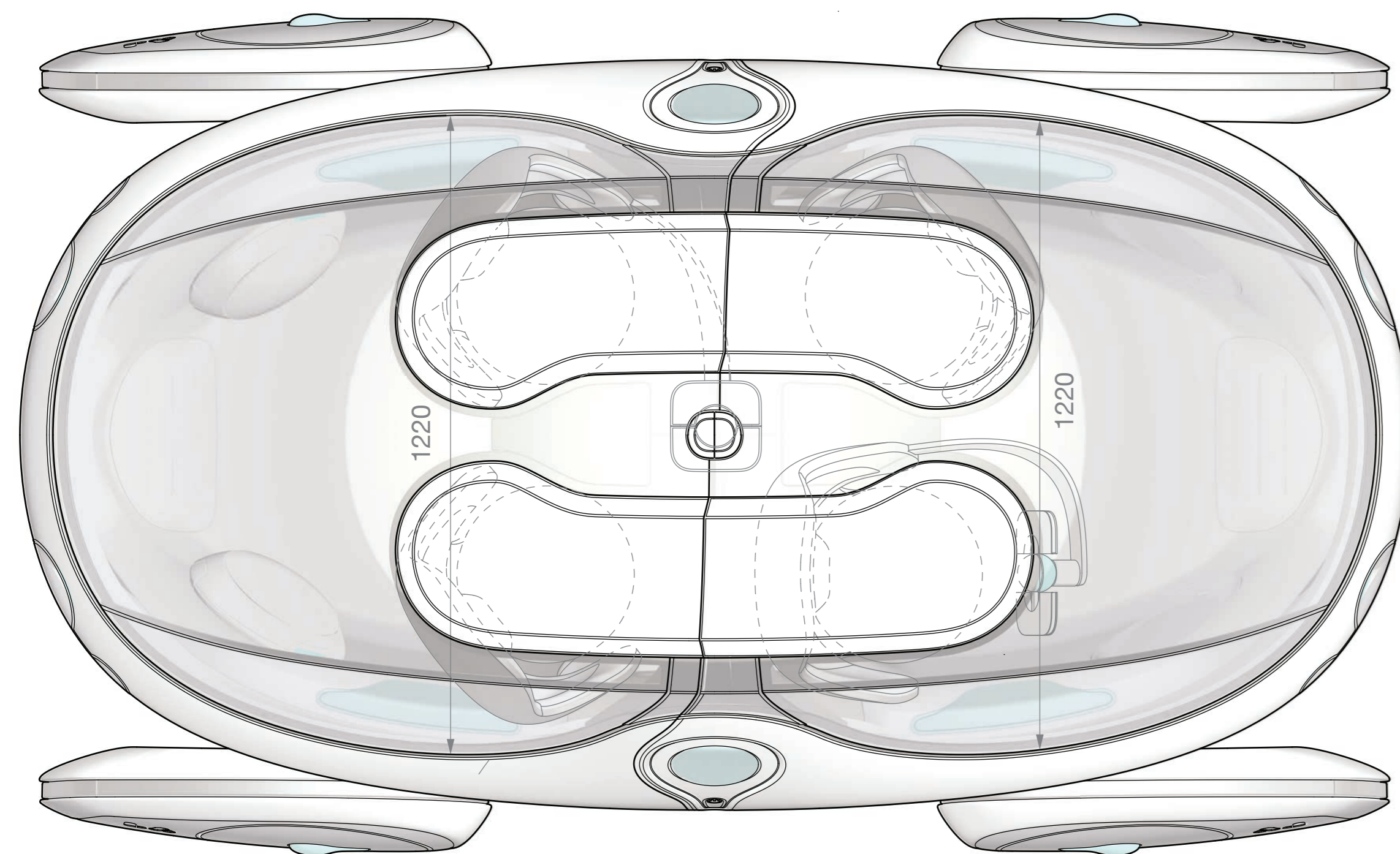
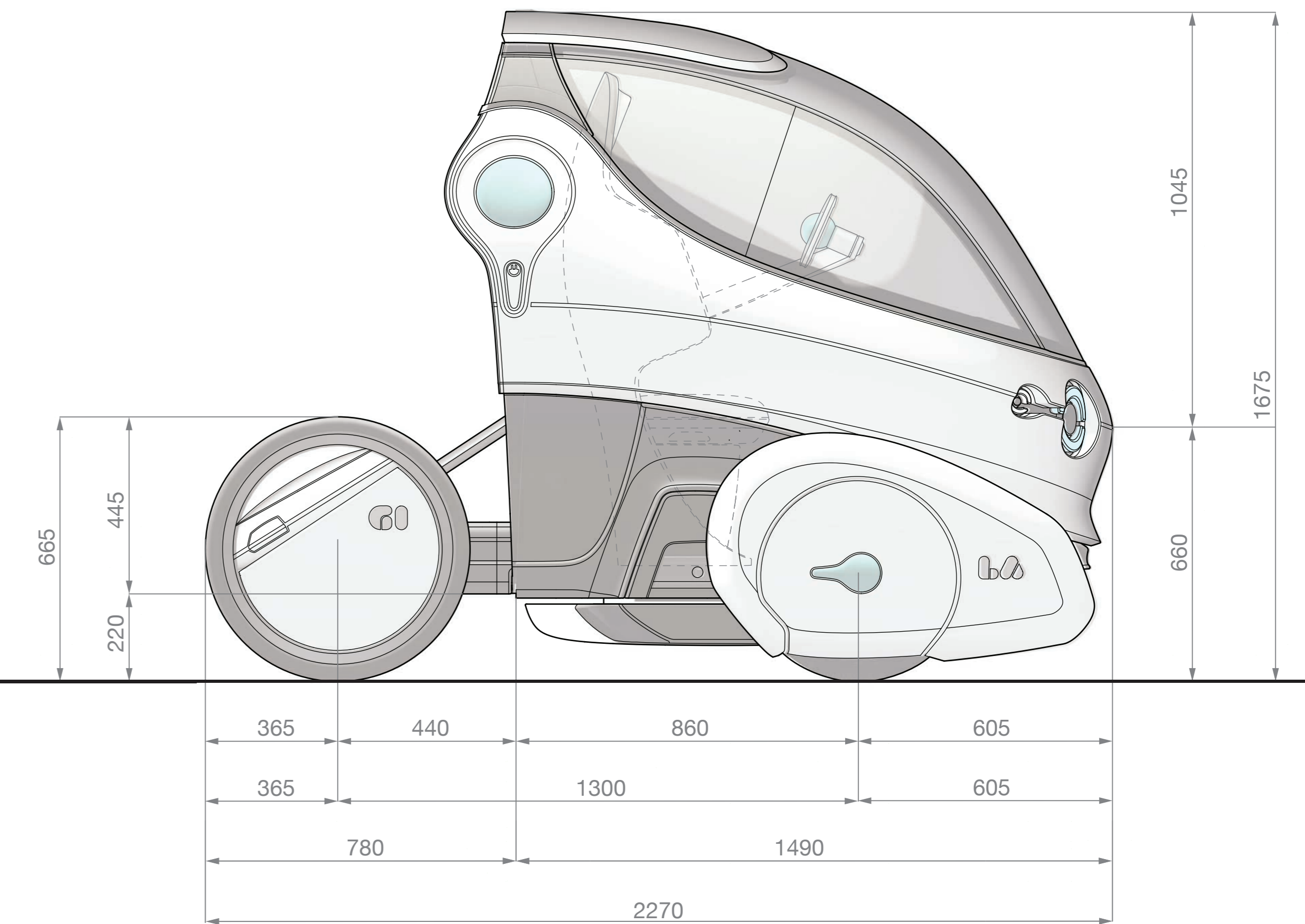
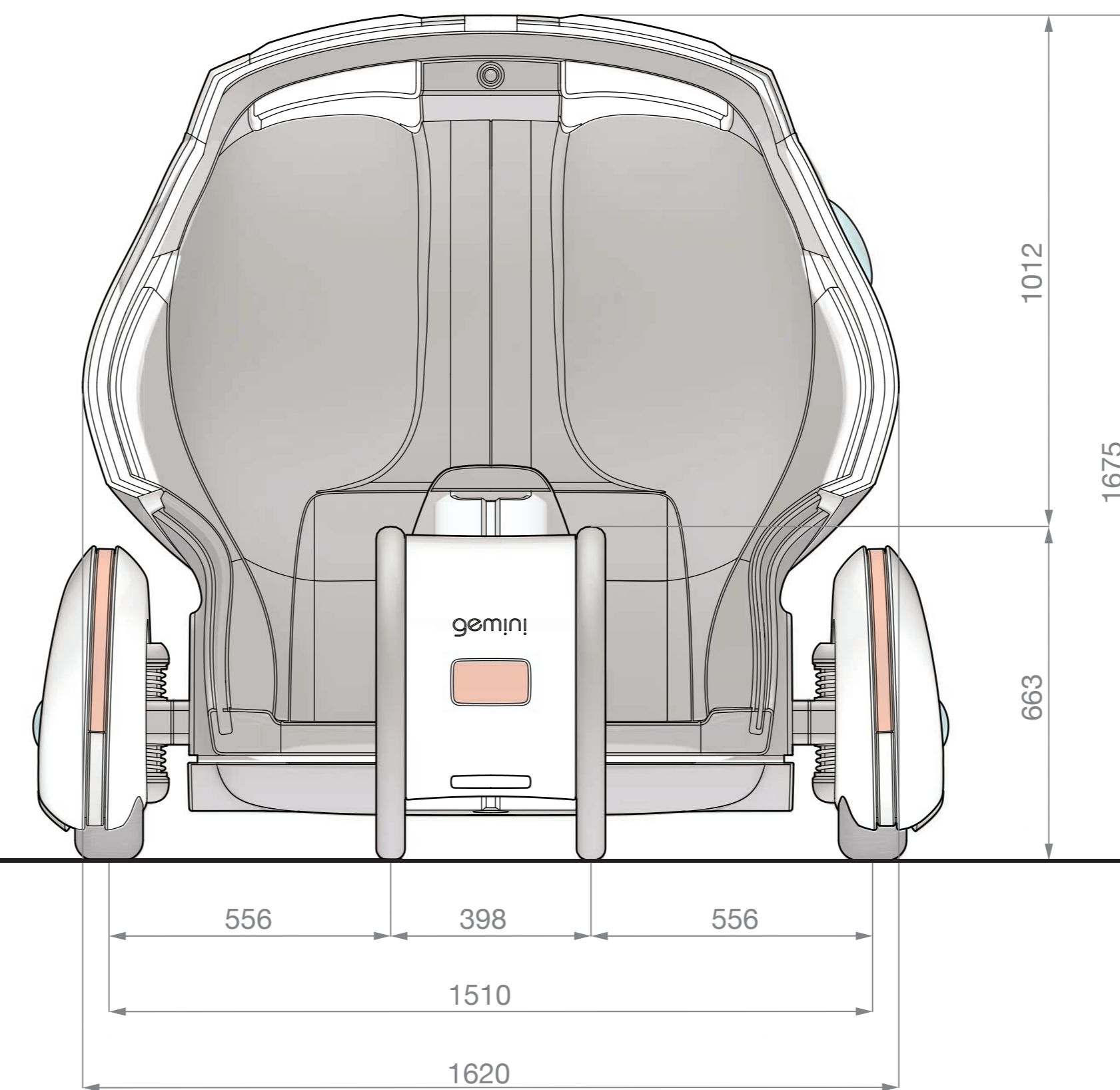
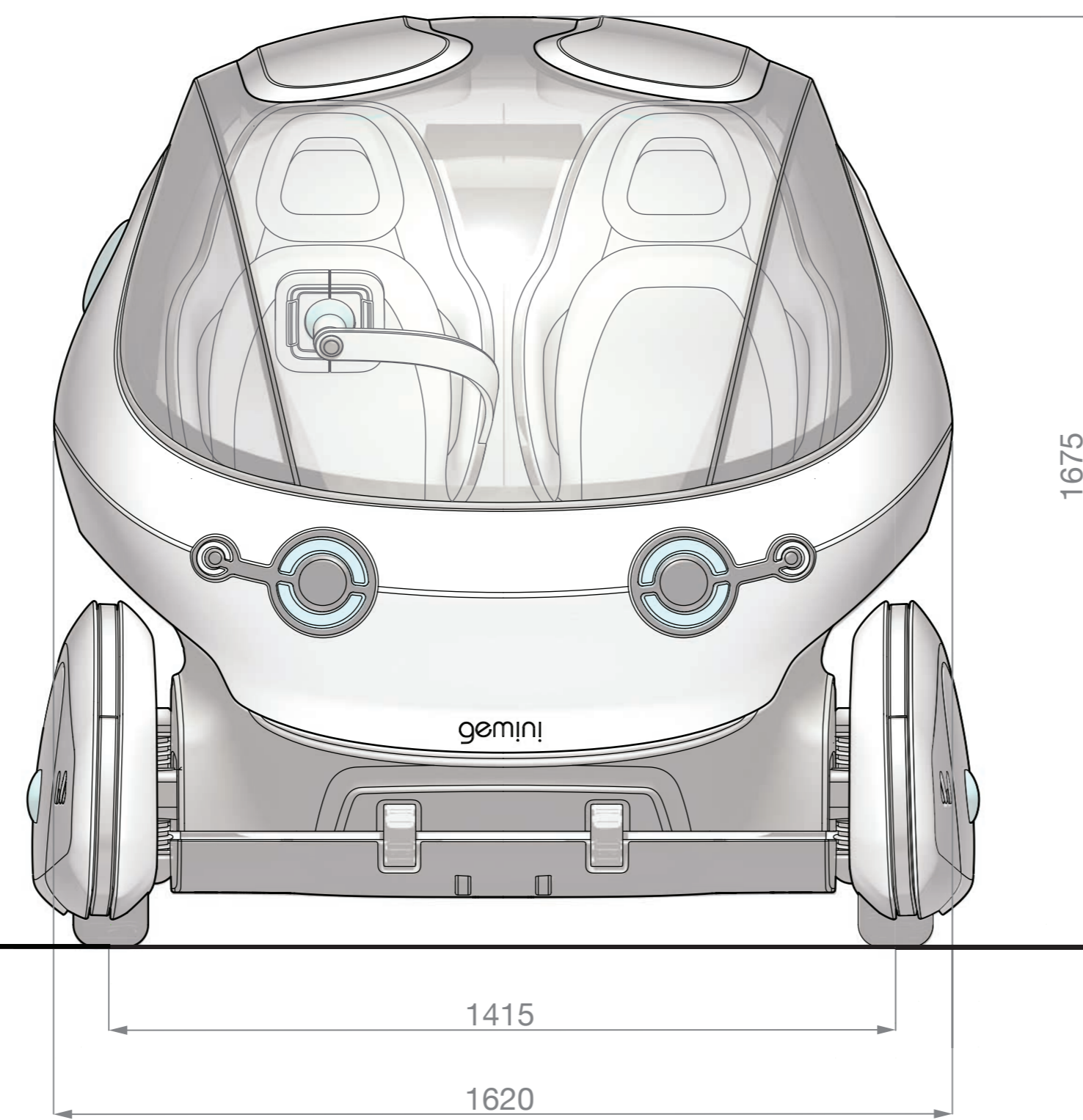
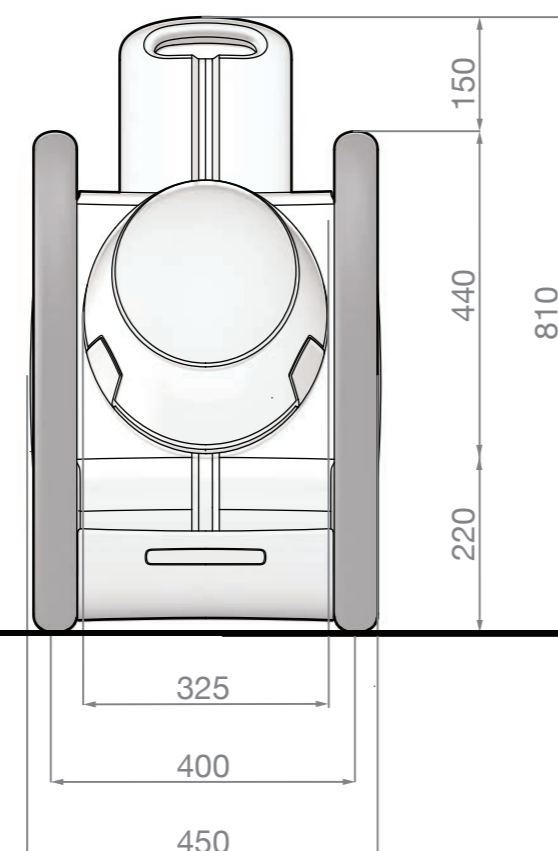
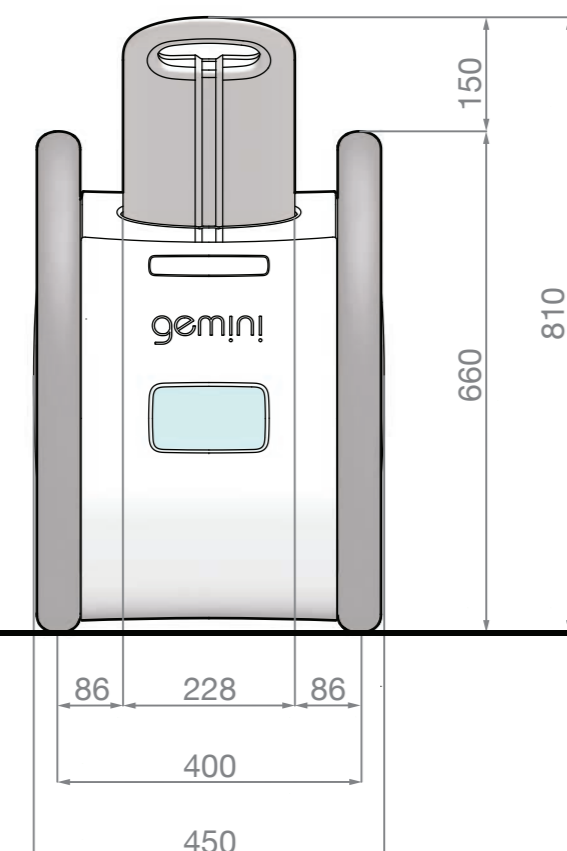
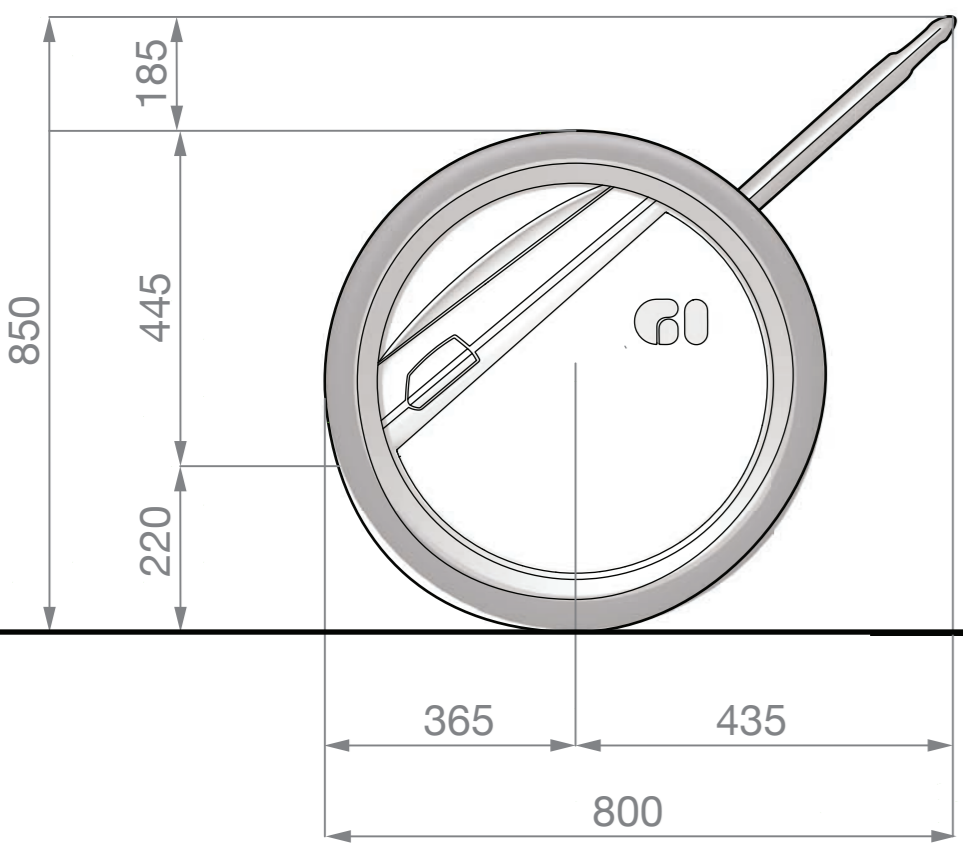
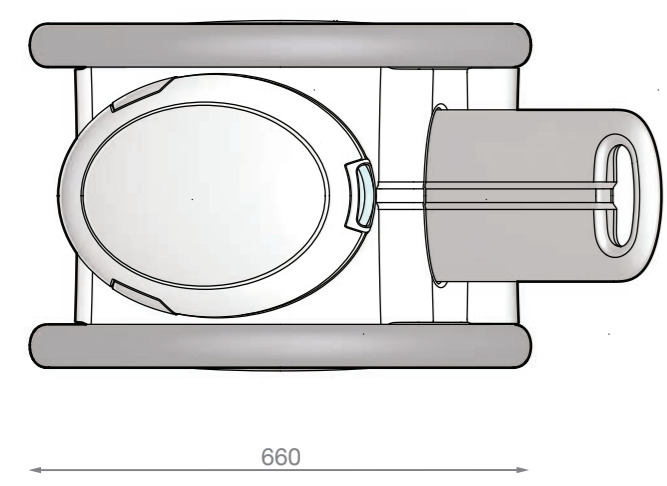
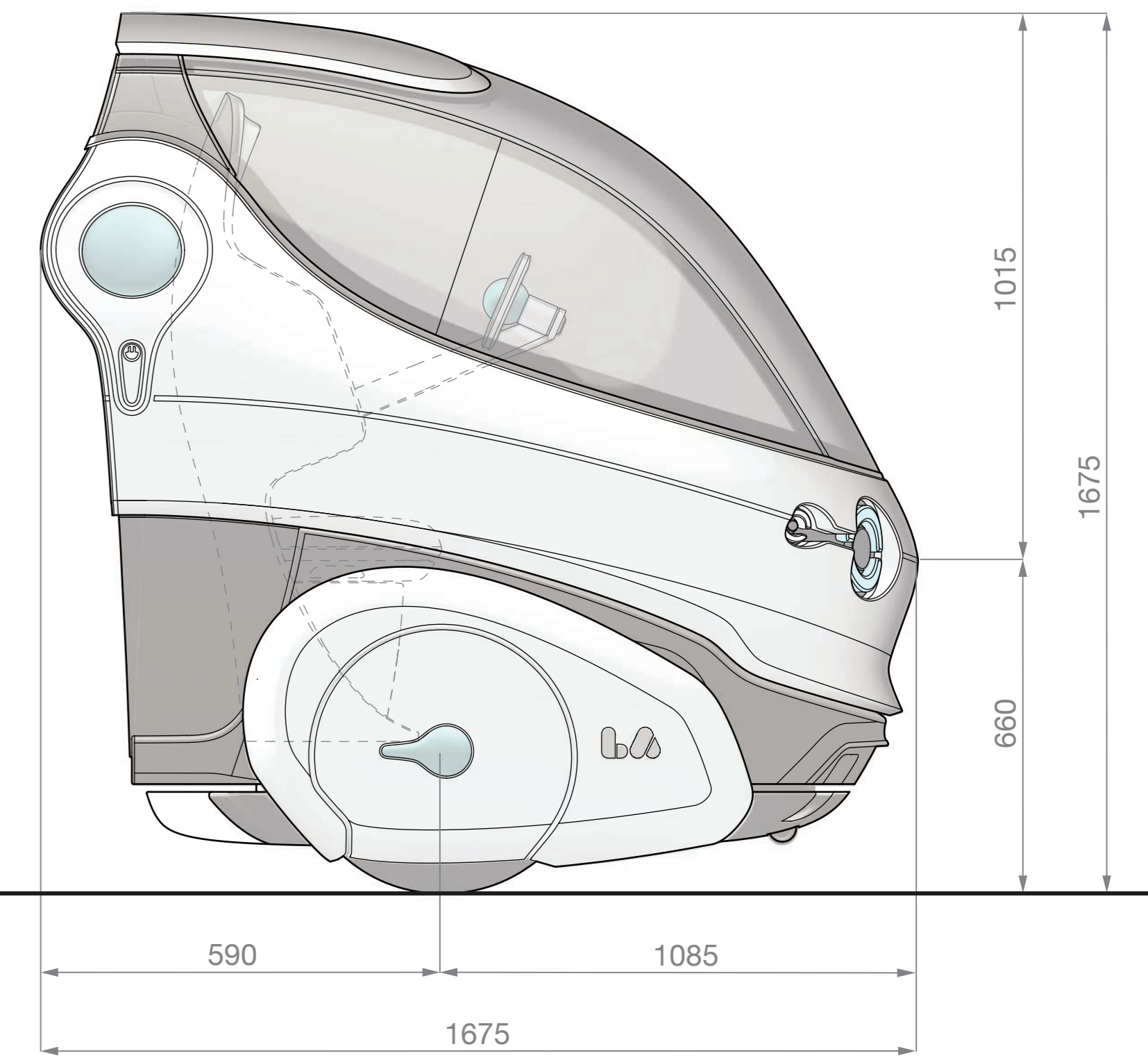
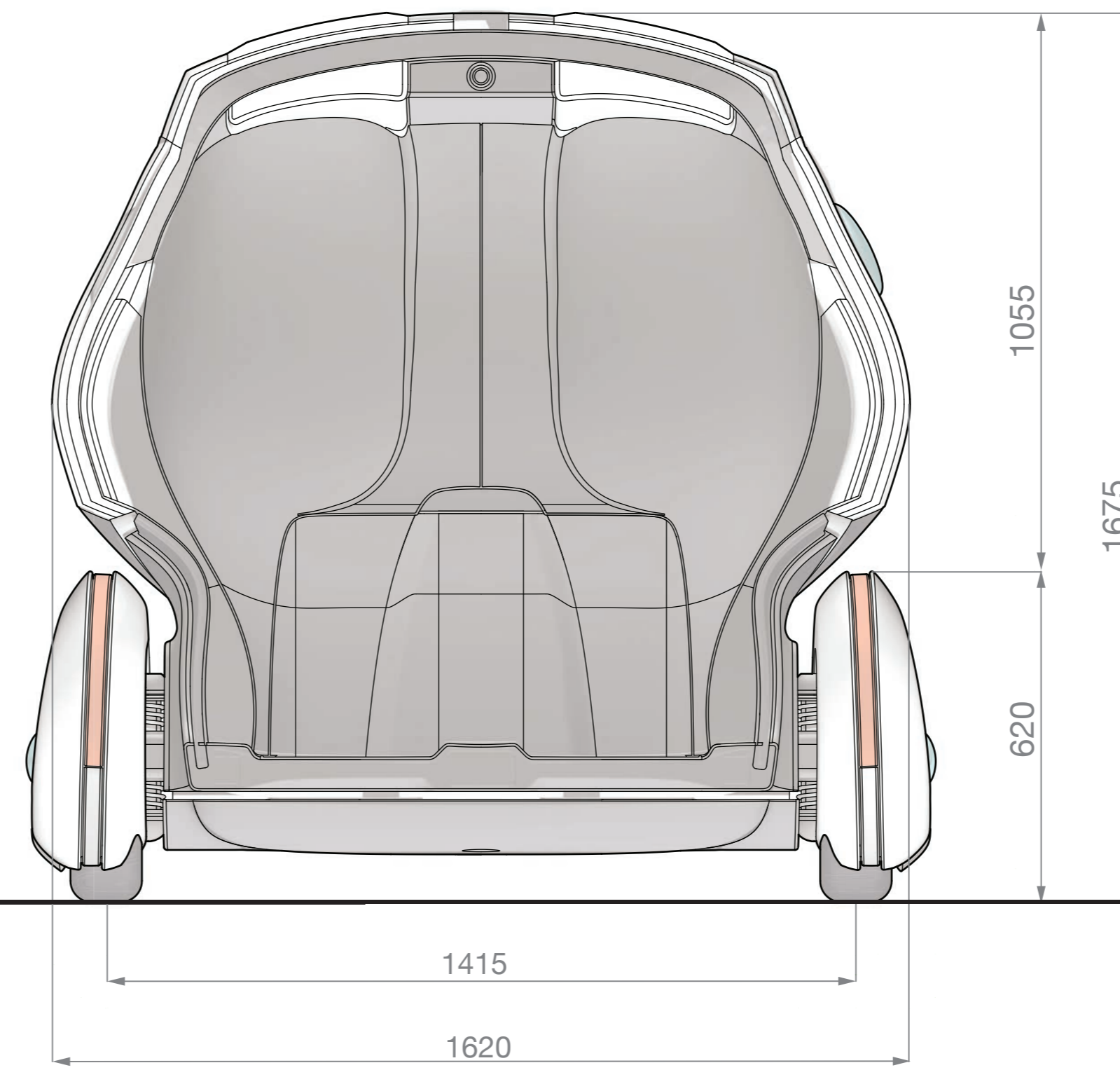
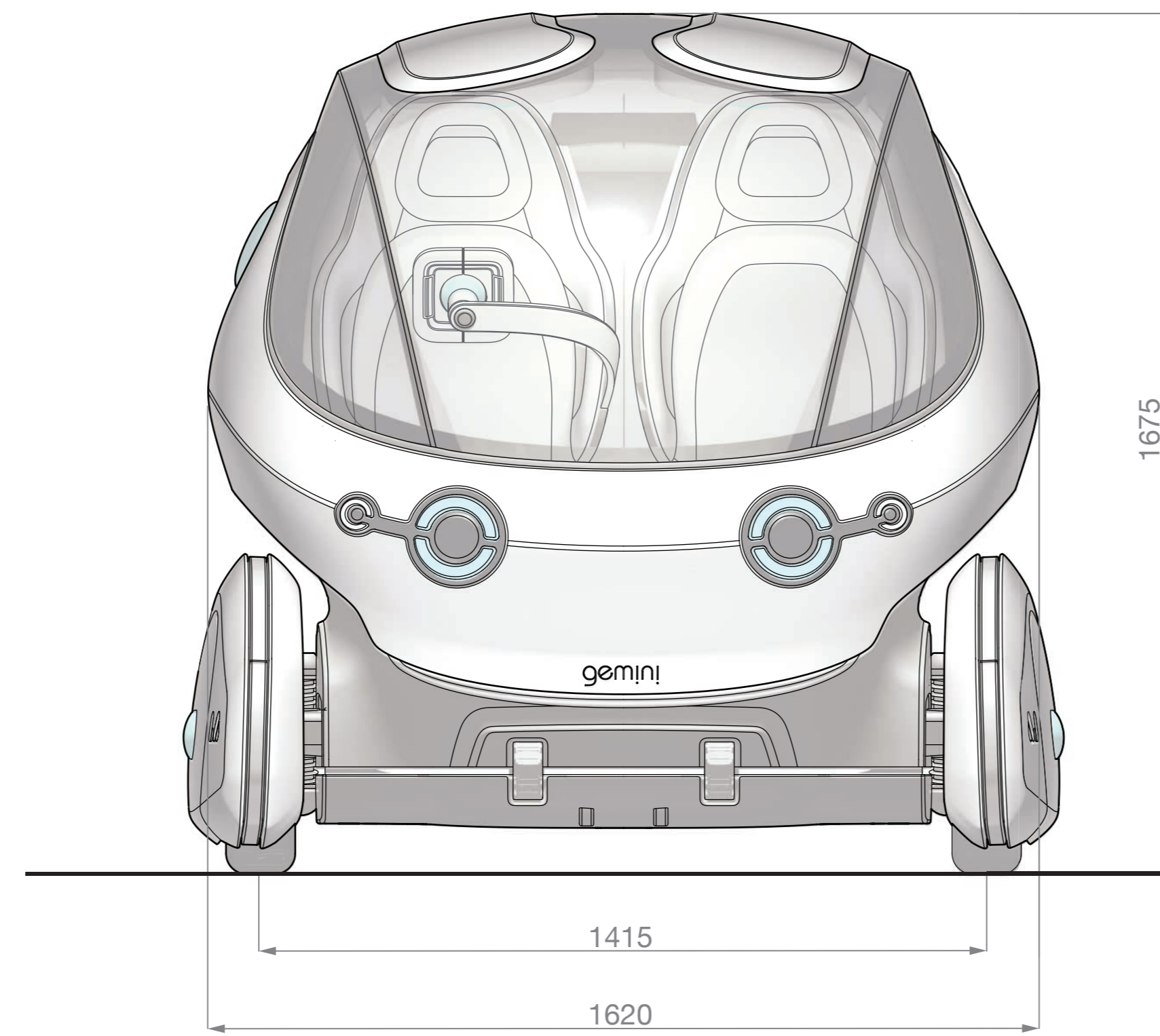
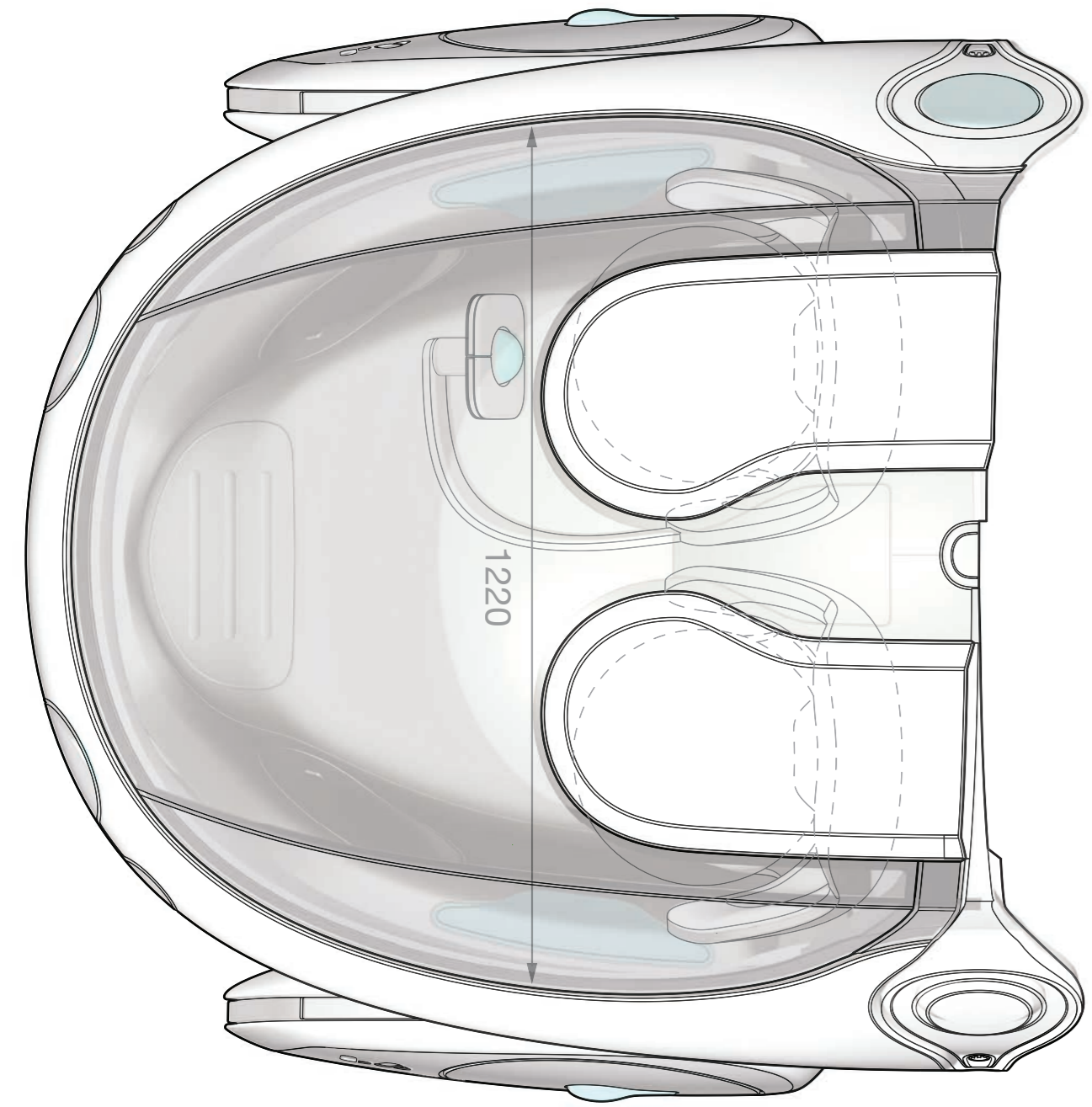
Extended with the morpheme 'Gi', 'La' forms 'LaGi', a Malay term for 'additional' and 'more', expressing superiority and a gain in quality. Like it's origin of name, the simple addition of just one handy plugin named Gi - respectively only two letters - changes so much of the meaning and scale of the Gemini La. Another meaning of words and another typology of vehicle.



CONCEPT DEVELOPMENT

Gemini's main unit, 'LA', an extremely reduced personal capsule for 2 persons is setting minimum space and weight requirements. It is strongly focusing on individual transport within the short range of the city center, where the lines of street levels and pedestrian zones are blurring due to high-density, vertical urbanism and slowed down, road pricing controlled traffic. By adding the modular-structured add-on 'Gi', Gemini shifts its typology - offering a wider range of usage through improved stabilisation, a performance boost and an included range extender. Its plug-in based system of flexible storage permits the possibility of personalization and customization. Combining two 'LA' units back to back, Gemini can be used as a micro car for families. The interior rearranges itself to form a new space of communication and exchange between the passengers and a plus of storage, resulting in a flexible configuration that provides more than the sum of its parts.

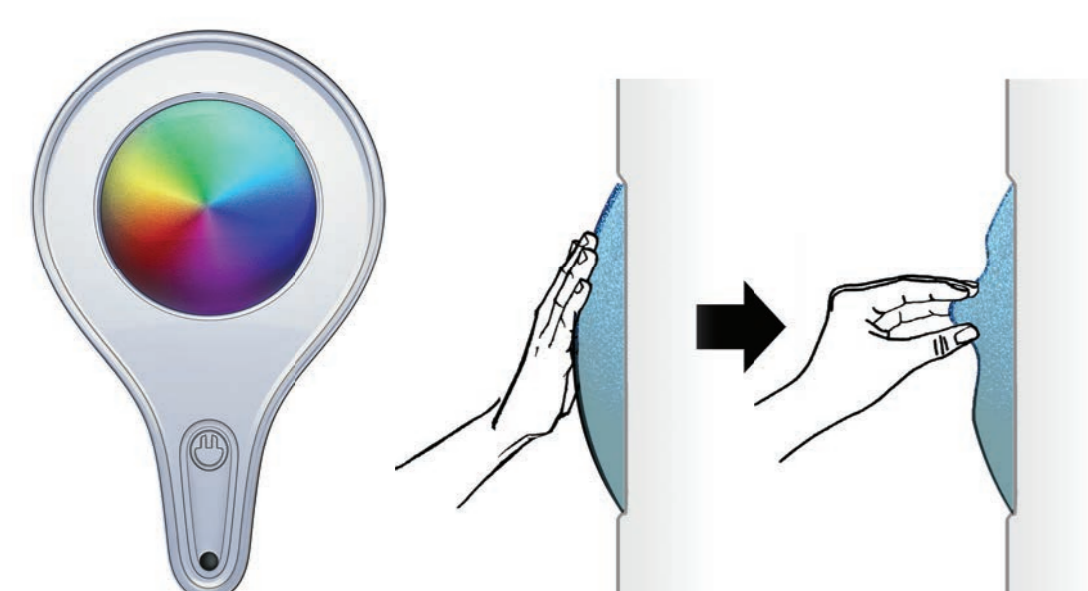






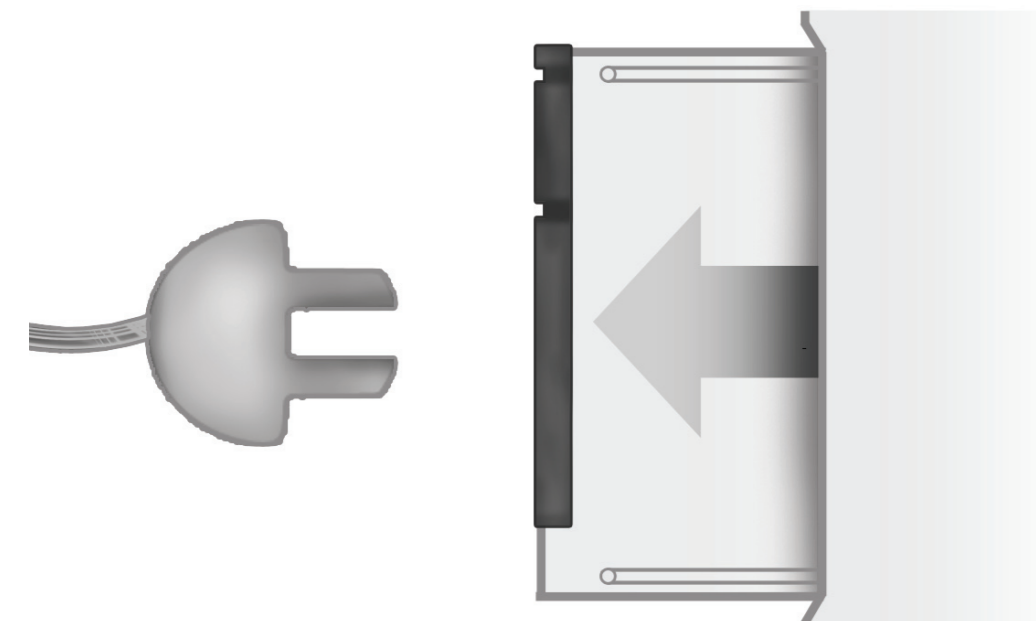
SunScreen & RainShield

Retracting rain shield, mounted between the two A-pillars, forming a rain shield for the opening when two units are combined.



User Interface

Door opening touch interface with tangible feedback through soft silky gel-body and backlight colour coded media facade.



Quick Charge

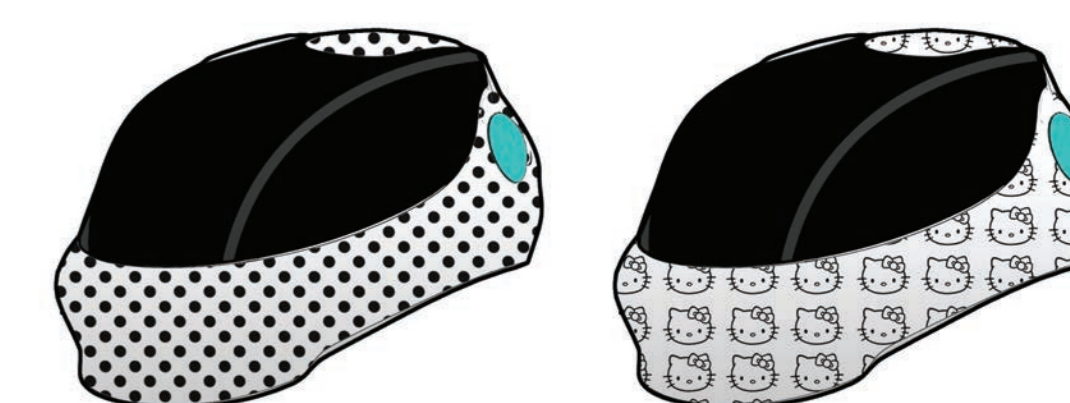
Power supply dock with lockable front, covered via push-pull admission for easy access. Integrated dock connector, locking the charger to prevent vandalism and theft.



TOYOTA IQ		HYUNDAI SONATA	
GEMINI LALA		GEMINI LALA	
GEMINI LAGI		GEMINI LAGI	
GEMINI LA		GEMINI LA	

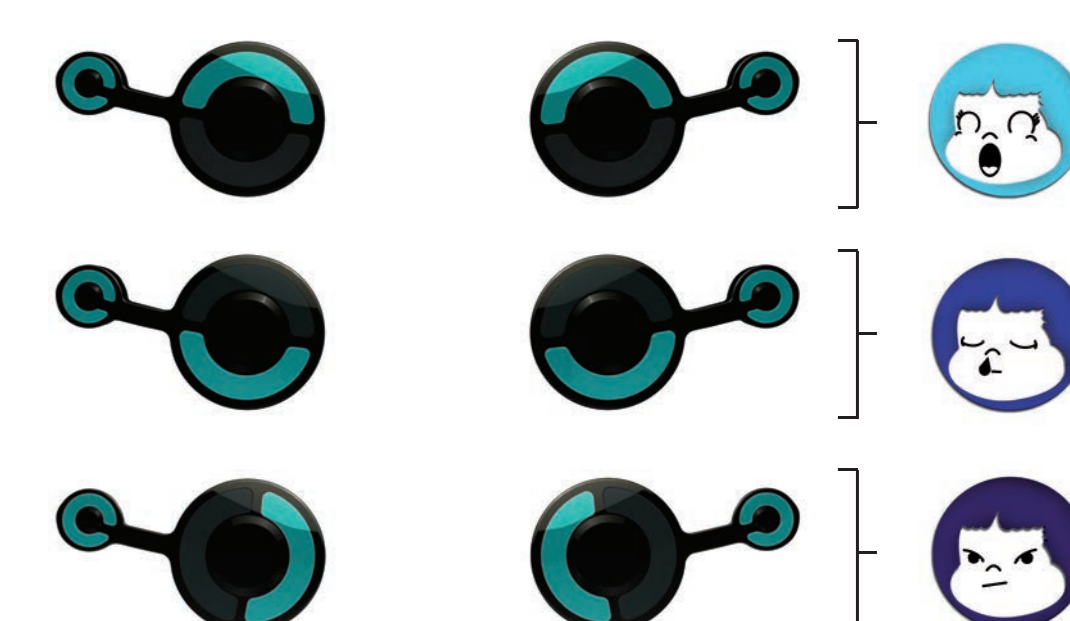
Size Comparison

In it's largest configuration the micro compact car Gemini LaLa compares to the size of the Toyota IQ.



Exchangable Clip-Ons

The lightweight construction of the hood allows a quick change. Third party suppliers can provide different styles for different tastes.



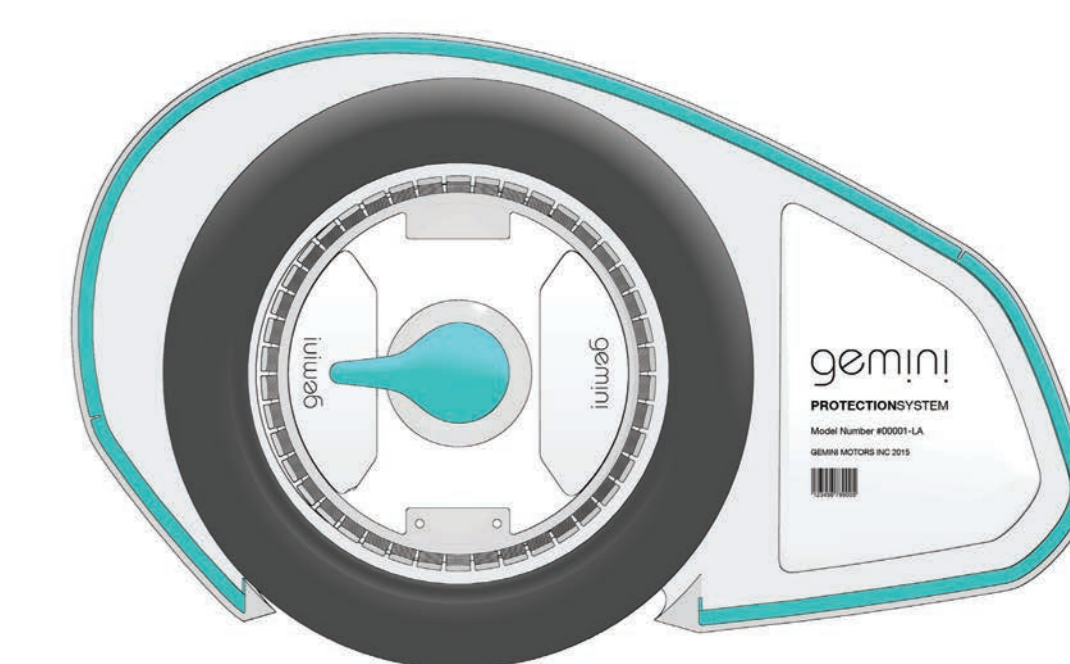
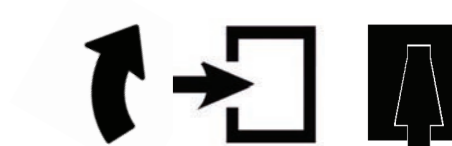
Front Lights

Emotional design through variable, stylised physiognomy based on the asian emoji expressions for feedback between the vehicle and both the passengers as well as its environment.



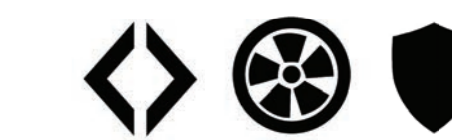
Opening Mechanism

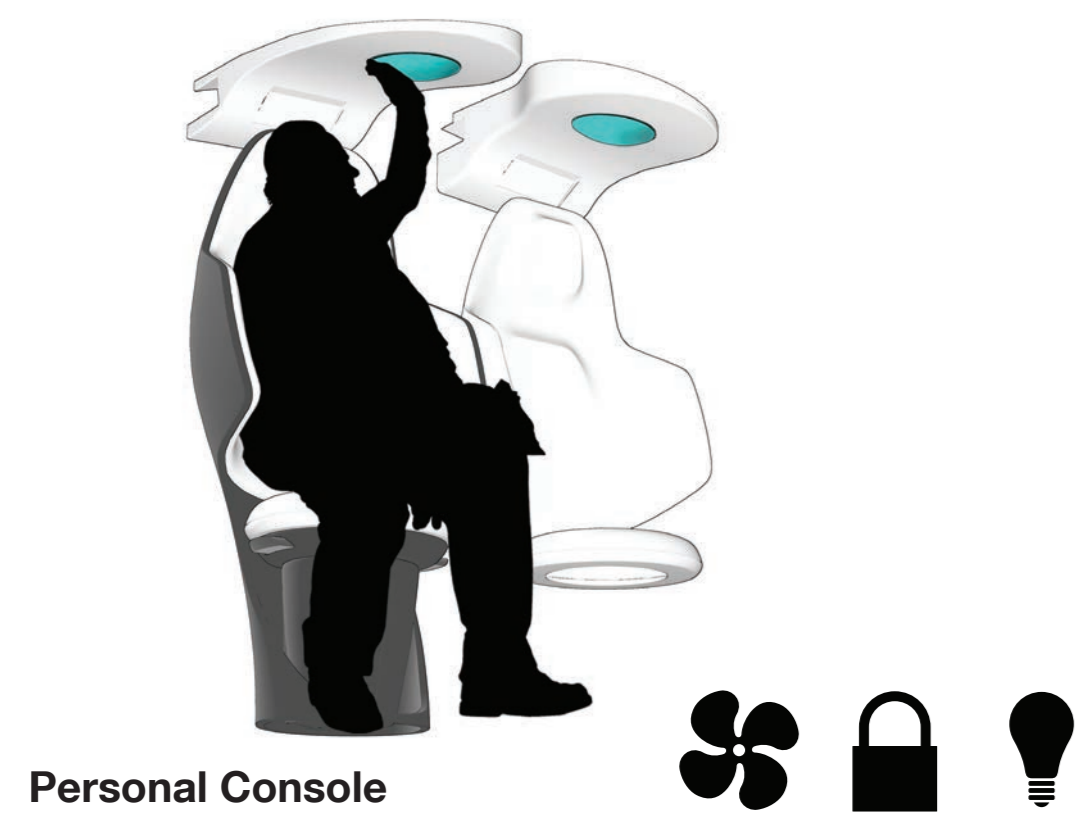
Wide open front entrance for both passengers. Easy and intuitive plugin unit access and installation at the rear panels / seats.



Wheel House Integration

Relocatable wheel house mounted on sled with integrated protection system for travelling with higher speeds.





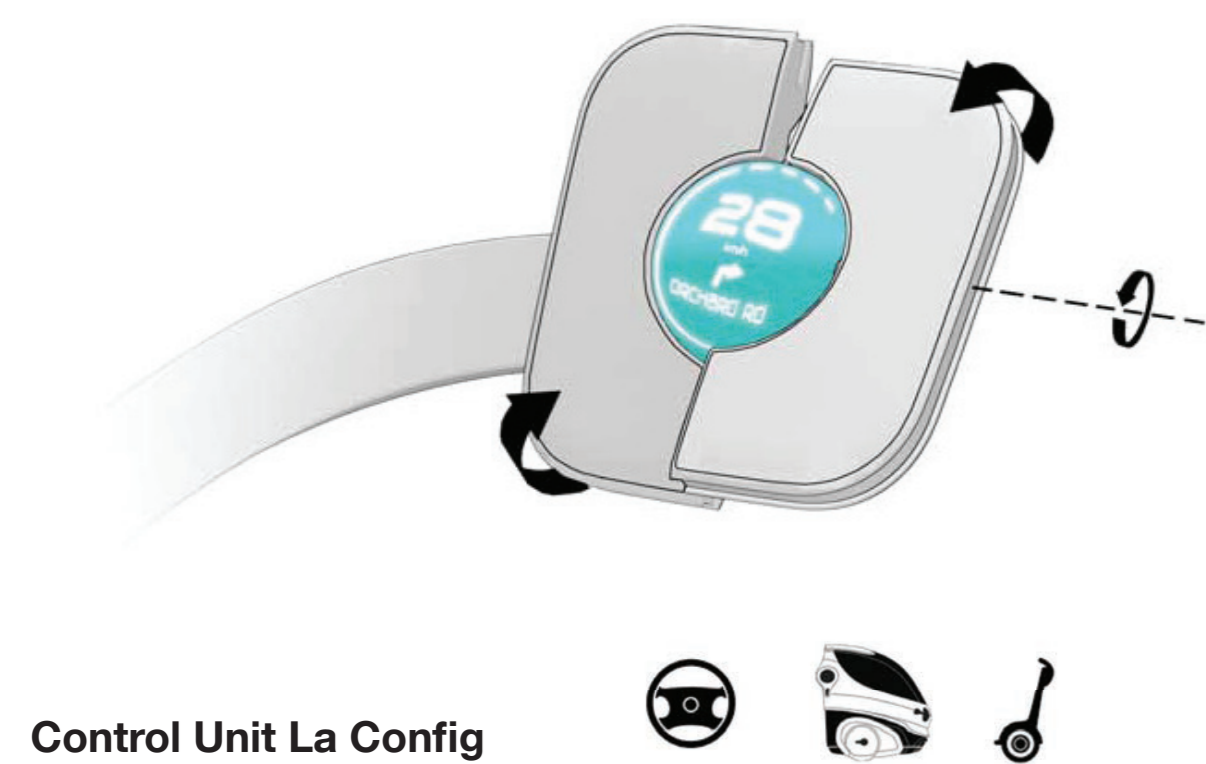
Multi-functional interface for each passenger - comparable to aircraft consoles.



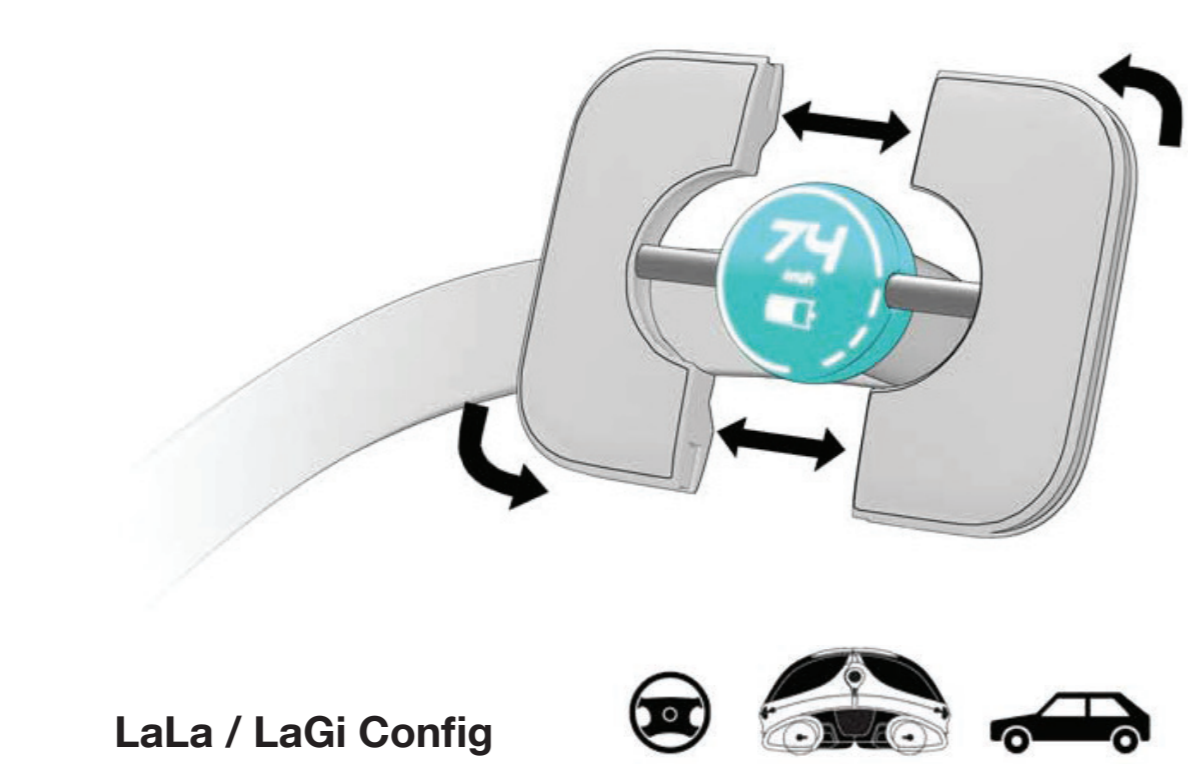
360° rotatable seats for the both configurations, surrounding the driver with integrated security system - bringing seating, rear panel, airbags, steering and technics into one single installation part.



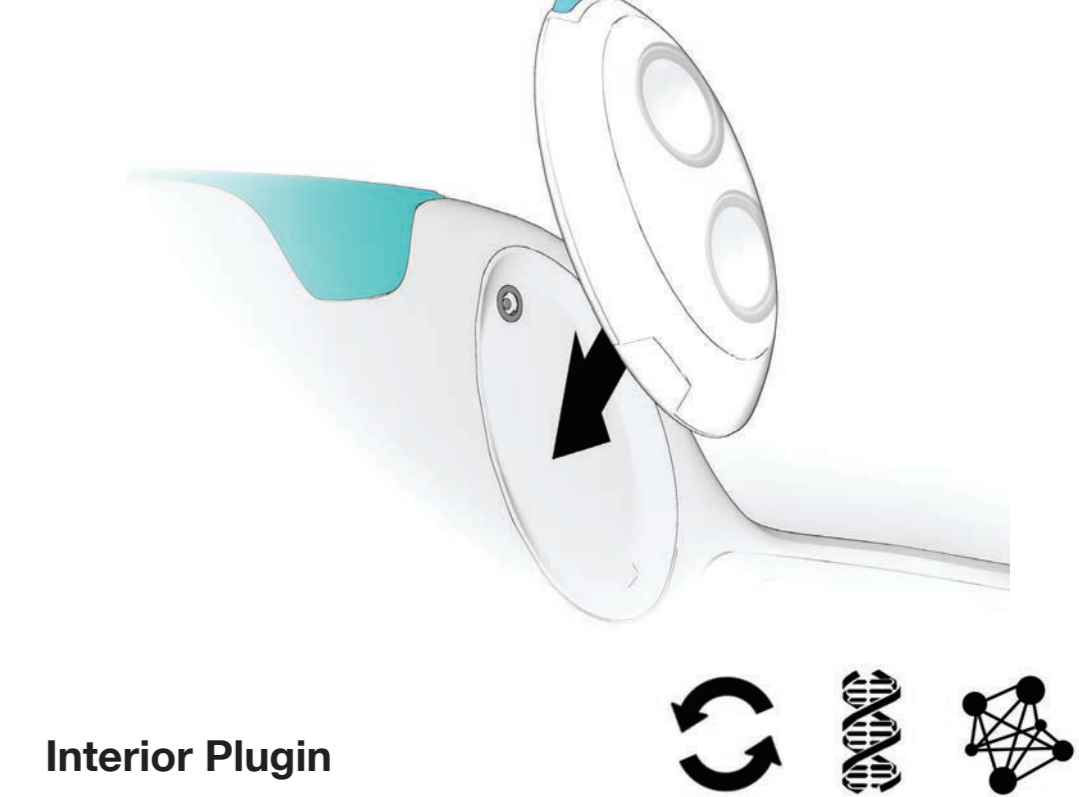
Common, barrier free entry from both sides of the vehicle for comfortable seating access. Central entrance for all passengers.



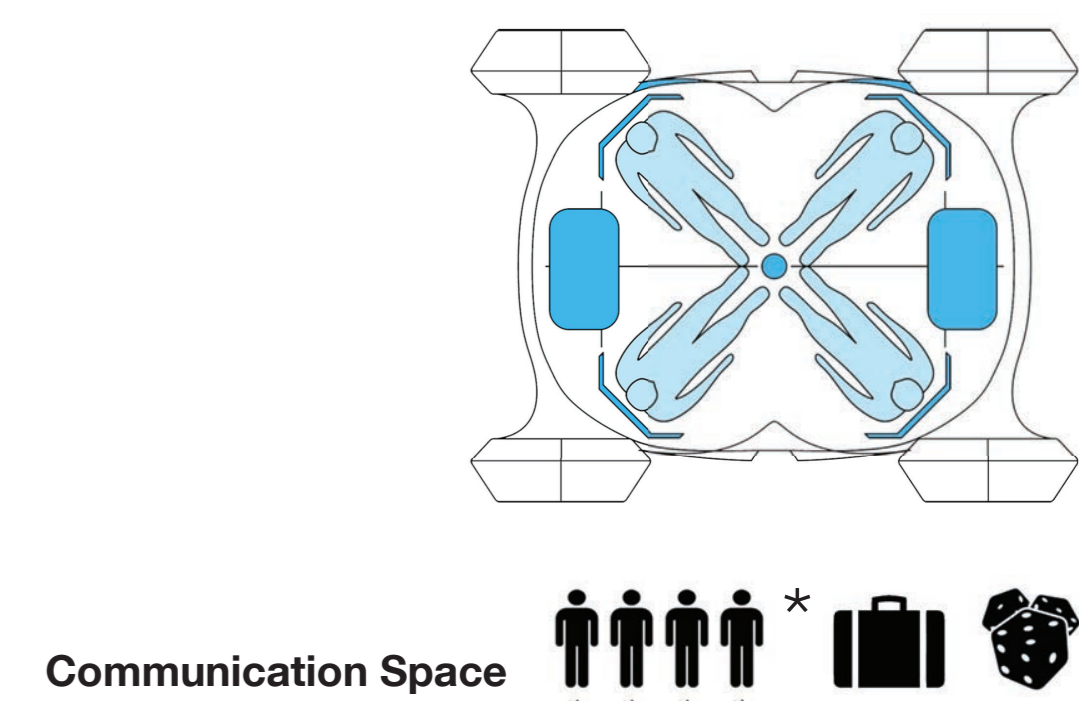
Extendable for two different driving mechanisms imitating the movement of the wheels for a intuitive navigation. Integration of an entertainment function for four-seater configuration.



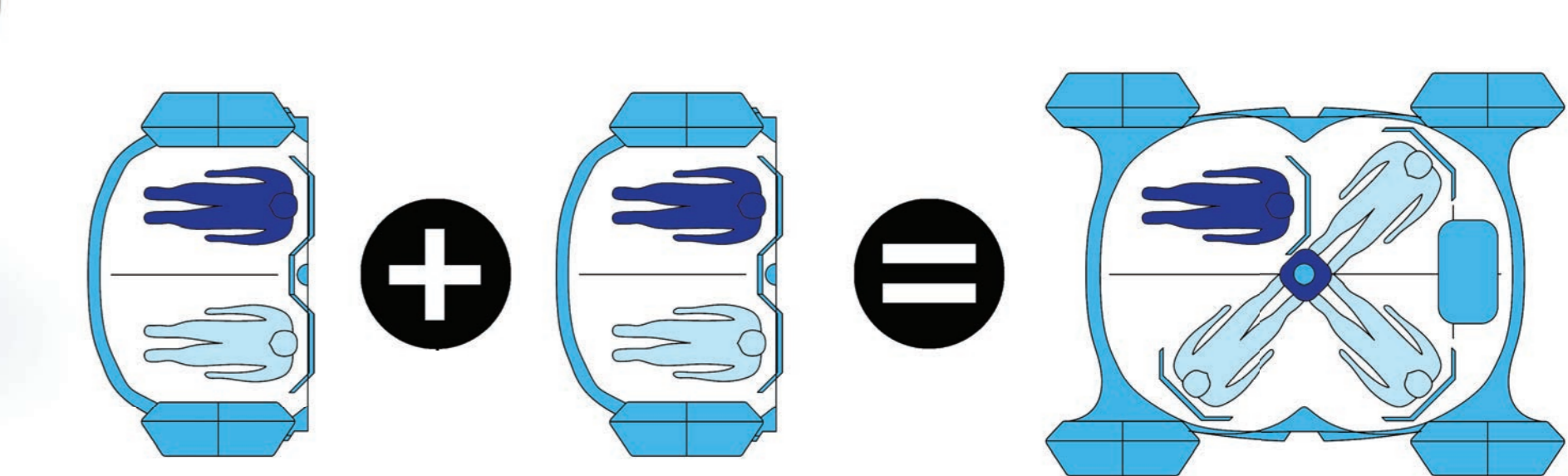
Silicone gel pad both as armrest as well as shelf space, holding objects on a slope due to occurring vacuums on microscopic levels.



Exchangeable plug-in units for versatile use of the cars interior, enabling easy home integration and customization of the vehicle's appearance and features.



Gemini creates a lively communication space in it's 4-seater configuration. Two La units connect and become one with the turning of the rear panel / seat combination.



Connect Drive $1 + 1 = X$

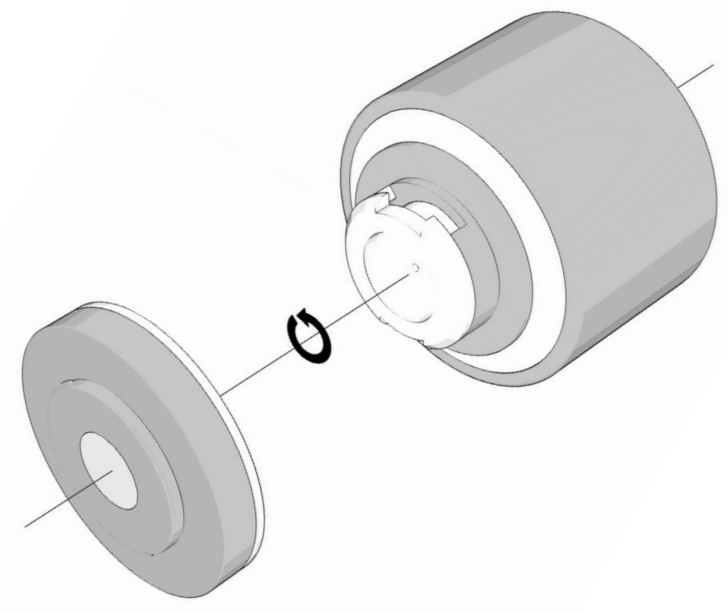
Gemini establishes the new seat structure position and additional loading space at the car's front and back. In this system the driver is given enough privacy to navigate the vehicle safely.



Retractable Handlebar



The handlebar is retractable and saves space in closed mode. It also functions as a stability connector to the La vehicle.



Magnetic Connector



The Plug-Ins are easily fixated with a twistable magnetic connector. Turning it clockwise switches the position of the integrated magnetic poles and creates a strong bonding.

Vehicle Connector

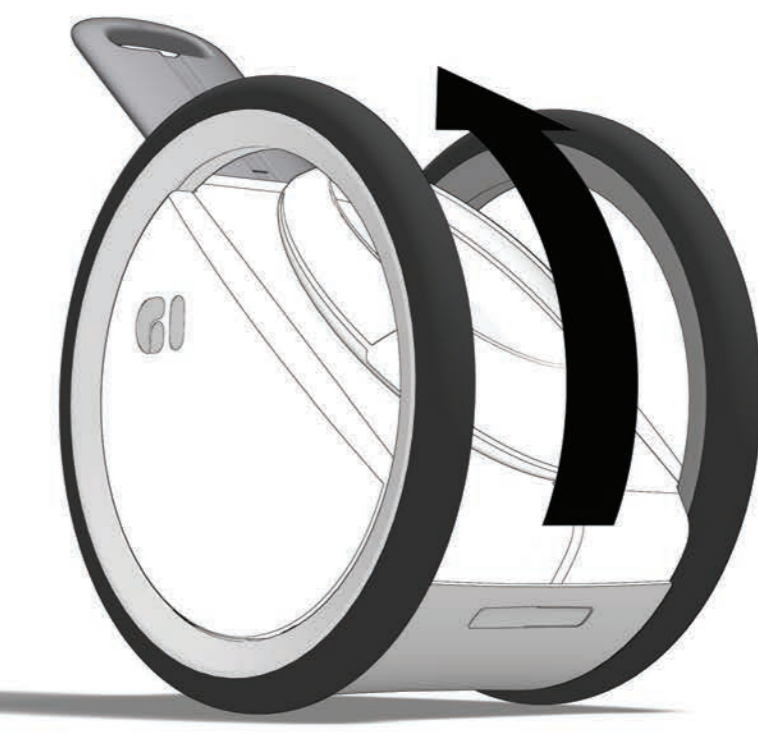
Range Extender

Control Electronics

Electromotor

Light Weight Rim

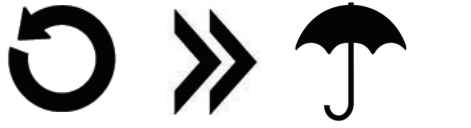
Drumbrake



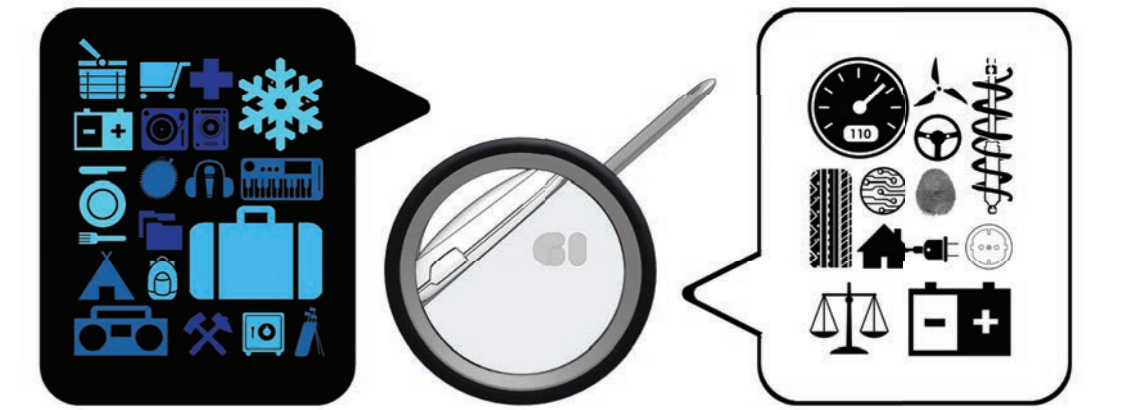
Plug-In Access Mode



Protection Mode



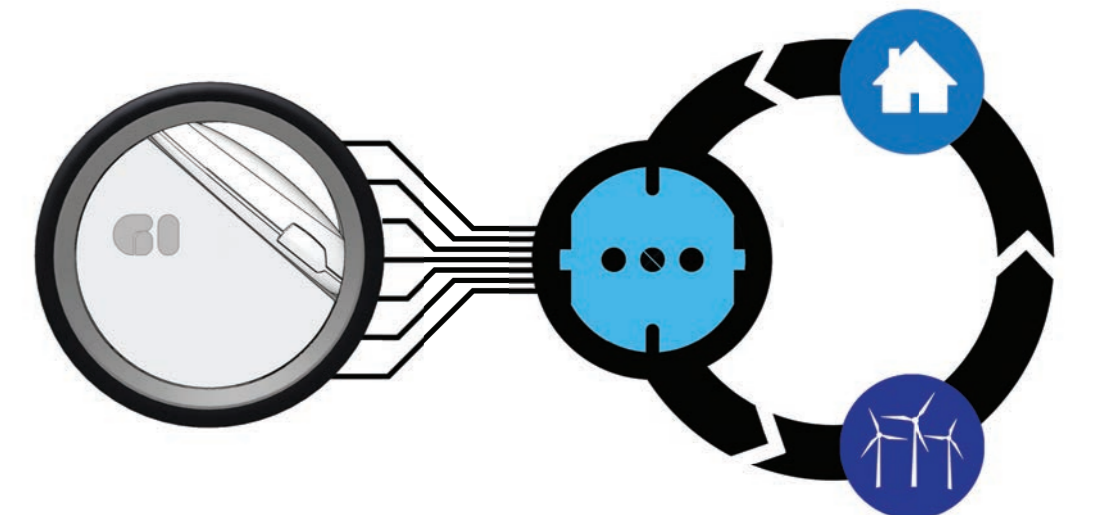
The protection plate can spin along the wheels to open the connection unit to the vehicles and offer additional clearance height. It offers an integrated light, which becomes a rear light while in driving mode.



Modular Plug & Extra Battery



When connected to the La the unit becomes a range extender for the whole car. The plug-ins can be supplied with electricity by the third wheel and function as additional space.



Smart Grid



The unit functions as a night storage to save energy during the night when electricity is available at lower prices. It functions as a electrical backup providing emergency power.



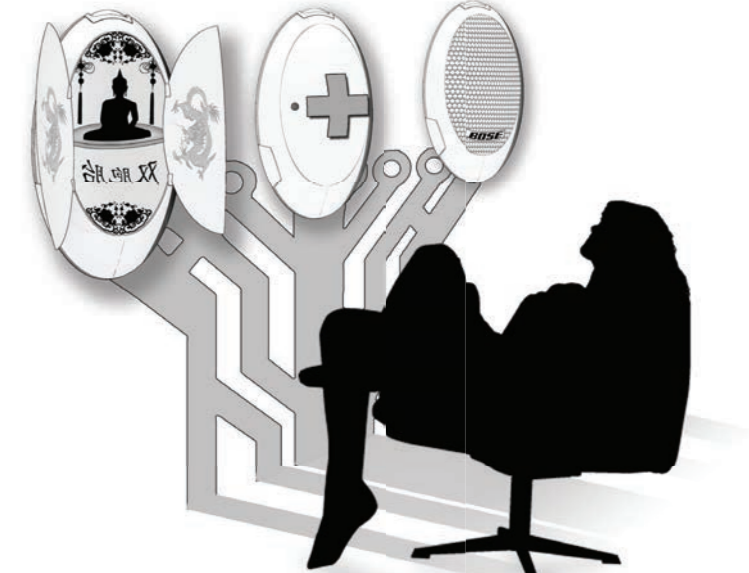
Assisted Shopping



WirelessPayment



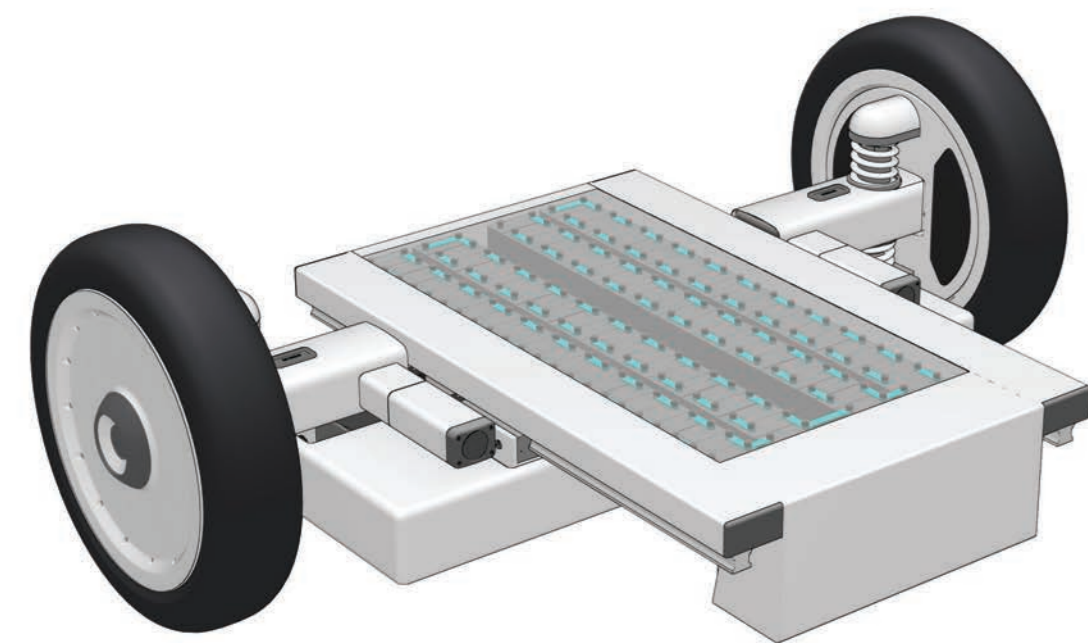
Housing Interface



Home Integration

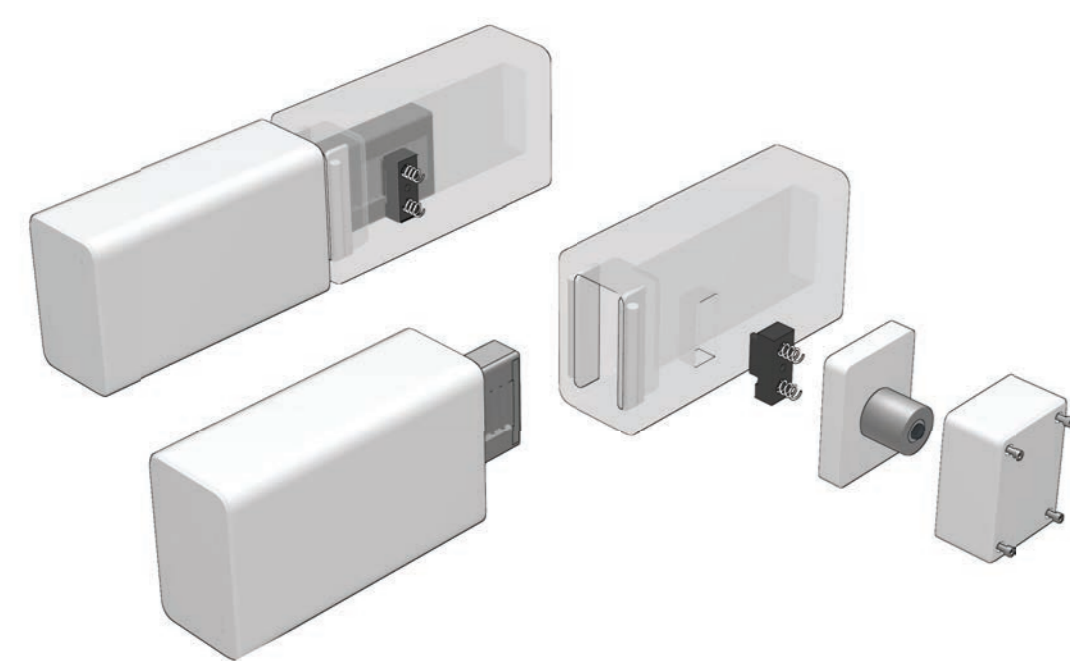


The Add-On unit has a large variety of functions to assist in daily life situations.



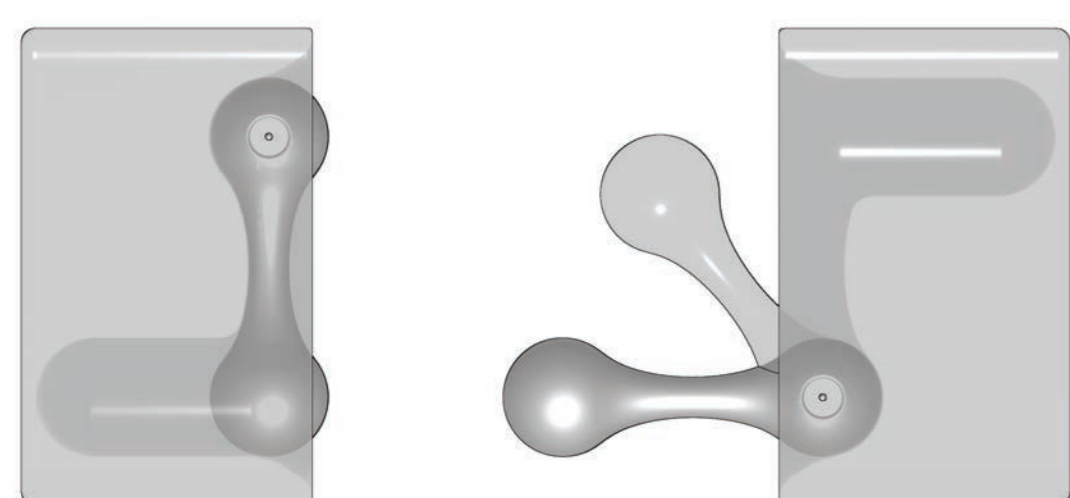
Underbody & Battery Case

The lithium ion batteries is positioned in the protected undercase, the gravity centre of the car. The electric connection between underbody and car is achieved by a flexible chain connection to protect the cables while the sled moves horizontally.



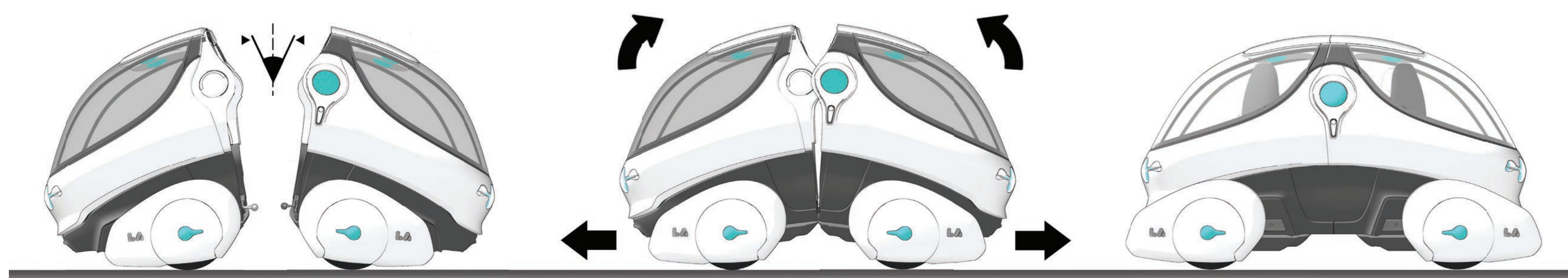
Interlocking System

When two LaLa are connected, they are interlocked in four positions (in the basis and in the personal consoles on the rooftop) to guarantee the safety and stability in higher speeds.



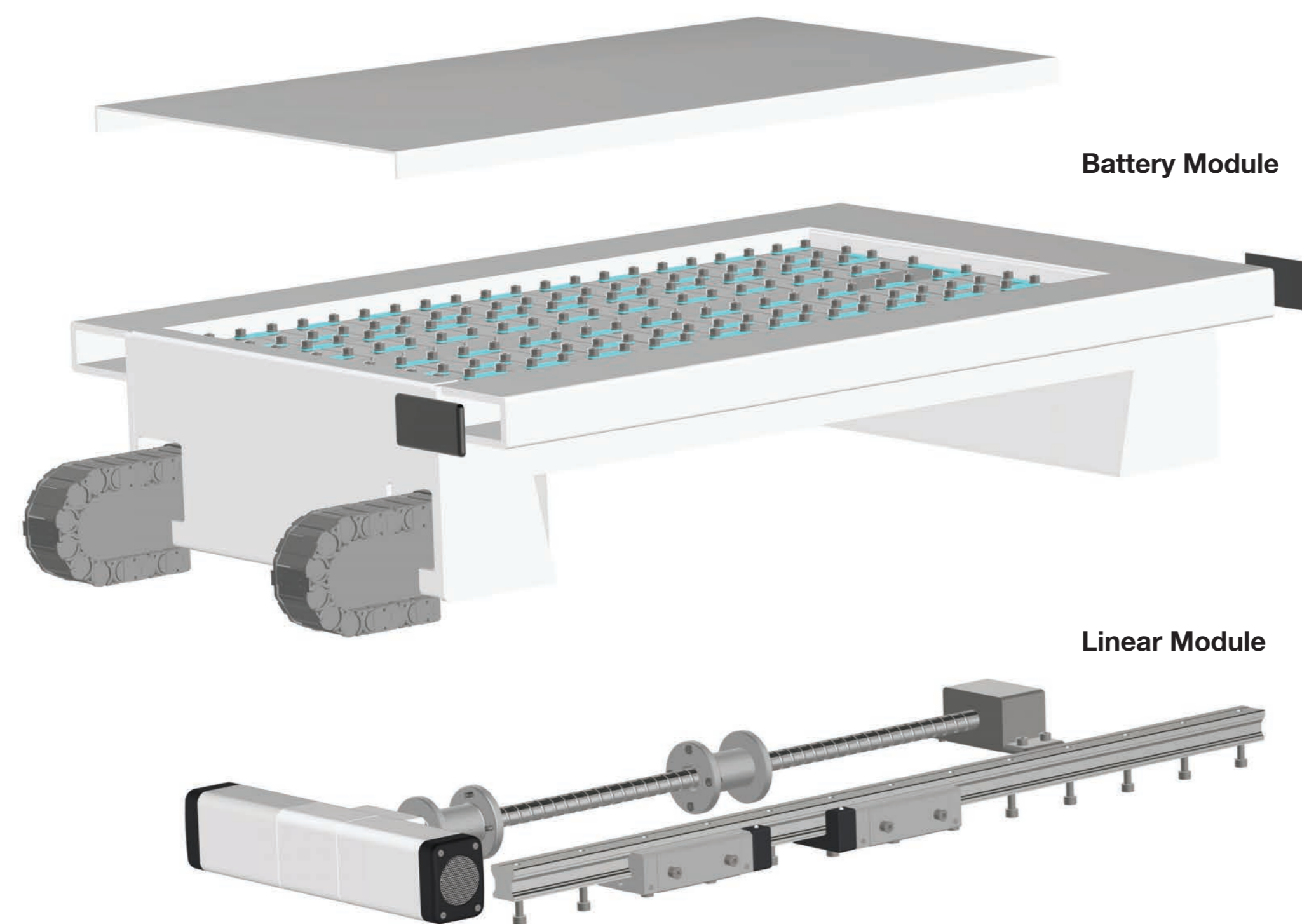
Unit Connector

A fold out connector serves as clutch between the La and Gi units. It also serves as the closure of the electrical circuit of the two cars and the add-on.



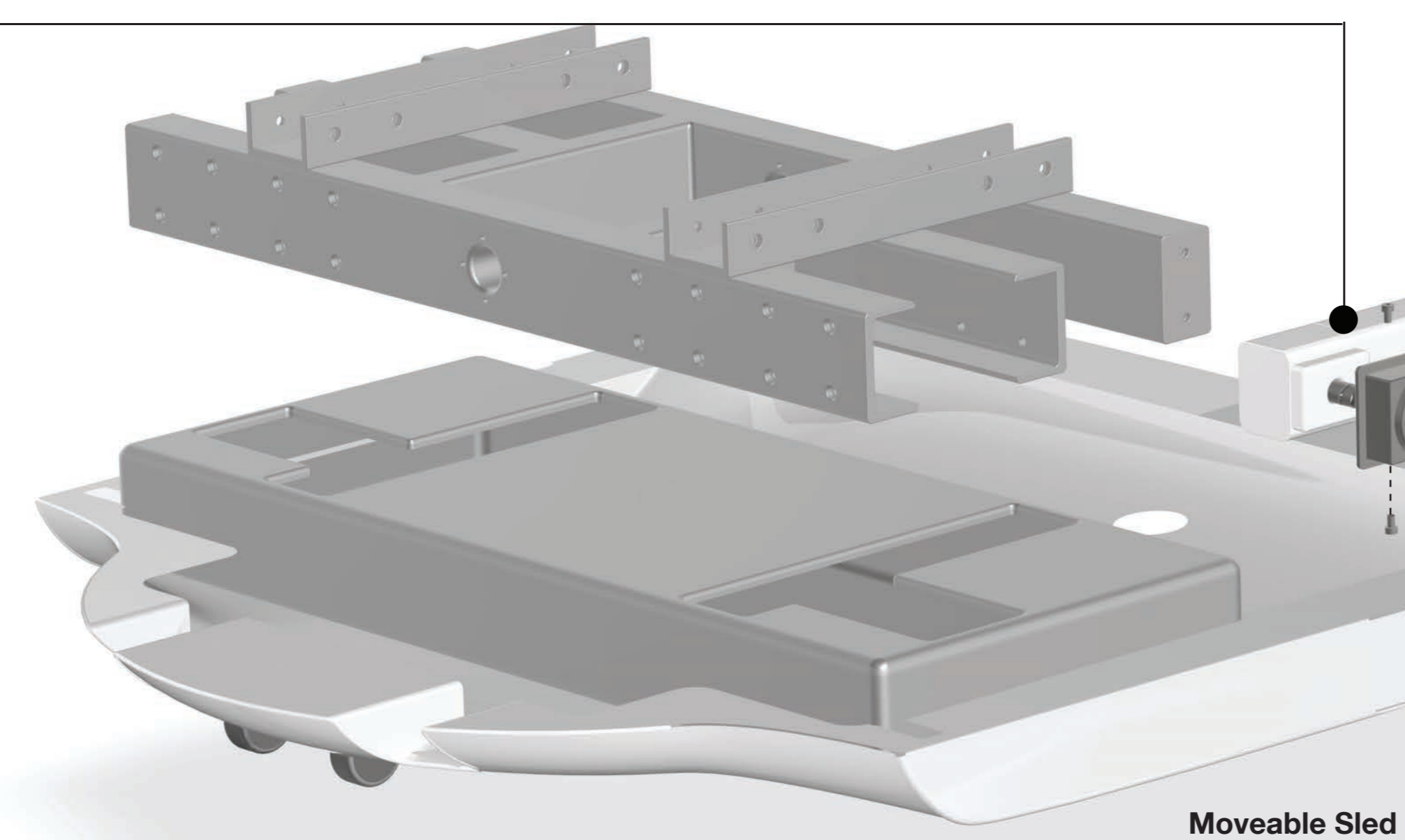
Connection Mode

The connection between the units is processed automatically. The La units arrange and approach themselves. While locked with the Unit Connector the wheels drive apart and bring the vehicles together, where they are locked in four places (2 in the vehicle base, 2 in the personal consoles, 2 doorlocks).

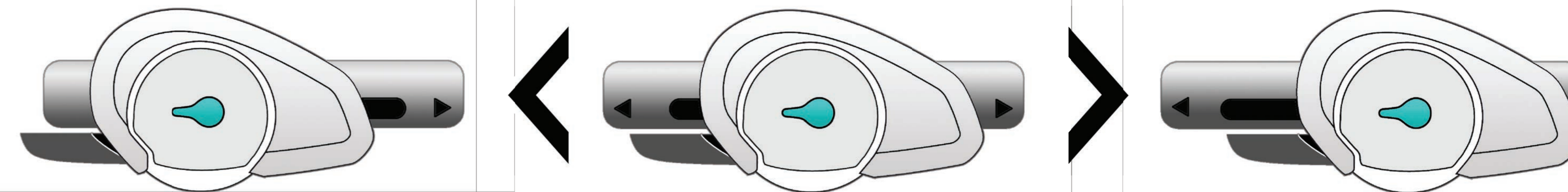


Battery Module

Linear Module



Moveable Sled



La Sled Parking Pos



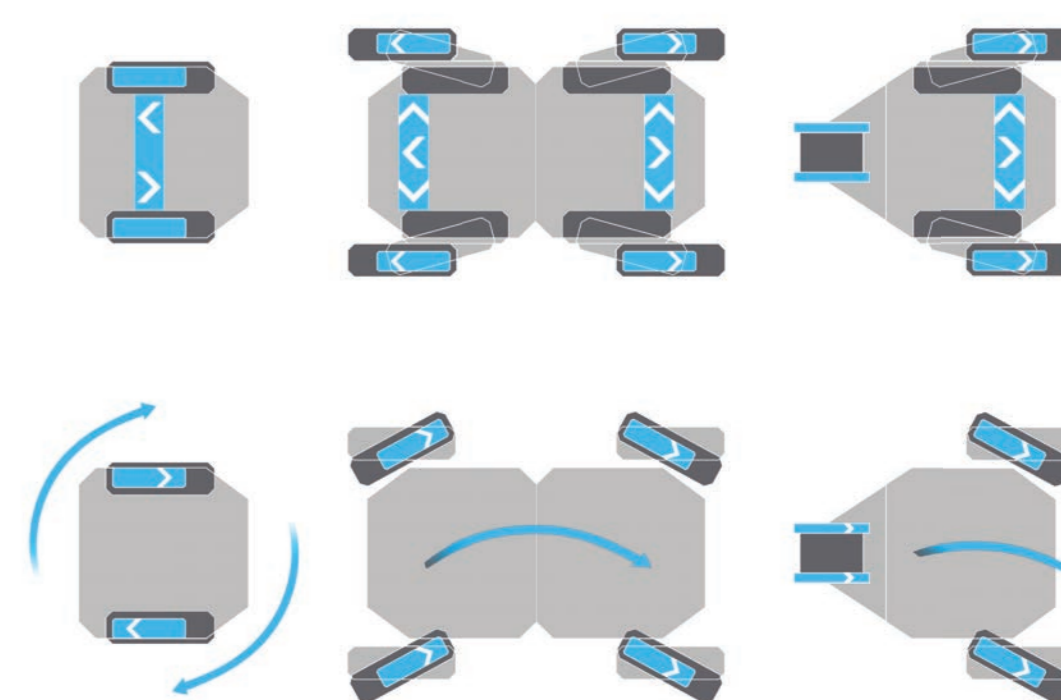
La Sled Driving Pos



LaLa and Lagi Pos



Gemini keeps balance with a moving sled in x-axis. A Segway principle based on sliding, not rotation, is used for stability while moving in the La configuration.



Stability & Steering

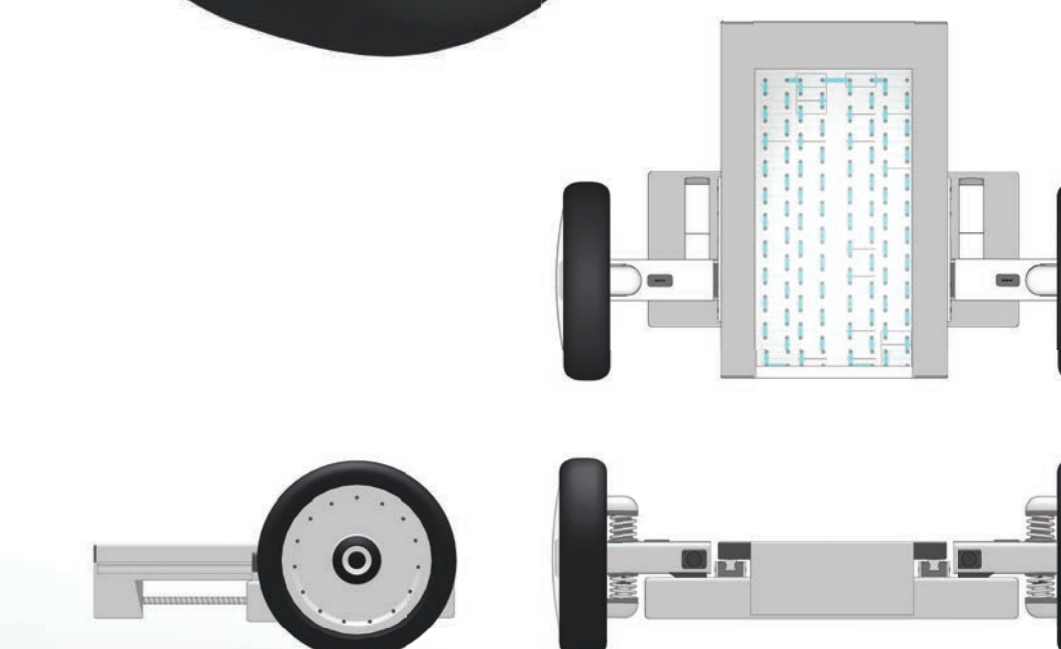
Increasing track width and wheelbase create 3 driving dynamics for different user scenarios. The small turning circle in LaLa and LaGi formation inspired by the Nasa mars rover driving mechanics.

Axis Adjustment



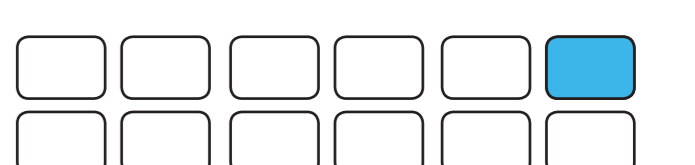
Steering Unit

Wheel Motor



Movable Sled and Axis Detail

The explosion shows the horizontal moving sled with integrated battery and the positioning of the electric steering units that extend from a rotating mode in La configuration to a more conventional steering mode in LaLa and LaGi formation.





gemin! | VERSATILEAPPLICATION

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