

The new ID. CODE

World premiere

## Auto China, Beijing in April 2024

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In brief

### World premiere in Beijing: Volkswagen presents a glimpse of the future brand design in China with the ID. CODE

- The next-generation SUV: the ID. CODE is strikingly athletic and stylish. It is the first model in the world to showcase a new Volkswagen SUV design language
- Made for China: designed jointly by teams in China and Europe, the ID. CODE is a tribute to Chinese Volkswagen customers
- Optionally autonomous: the sensors, exterior design and interior concept of the ID.
  CODE were designed for Level 4 autonomous driving
- Light Cloud, 3D Eyes and Light Screen: interactive lighting systems provide information and communicate intelligently with their surroundings
- Perfect co-driver: Al-assisted avatar communicates with driver and passengers via displays in the exterior (Smart Windows) and interior

Wolfsburg/Beijing. With the world premiere of the ID. CODE at Auto China 2024 in Beijing, Volkswagen is providing a first glimpse of a completely new SUV generation, a new design language for China and a new technology generation. The concept car was developed specifically for Volkswagen customers in China. With the ID. CODE, Volkswagen is interpreting SUV design in a completely new way and enriching it with fascinatingly superior dynamics in the age of electric mobility. With its powerful, clear and fluid surfaces, the ID. CODE comes across more like a Gran Turismo than a five-metre class SUV. The exterior is also a projection surface for the next generation of AI-assisted lighting and display systems - intuitively usable interfaces for intelligent communication between man and machine. The newly designed living space on board the ID. CODE fits perfectly into this picture - here, the real and virtual worlds combine to create a new mobility experience. The electrically powered concept car can be driven conventionally and also used autonomously at Level 4. The ID. CODE offers a more fascinating experience than ever before - it interacts with the driver, passengers and surroundings so that life with this Volkswagen becomes a completely new automotive adventure.

**Chinese-European teamwork.** Thomas Schäfer, CEO of Volkswagen Passenger Cars: "The ID. CODE provides an initial glimpse of the future of Volkswagen in China: with a new design language, a new technology standard and a holistic brand experience – specifically geared towards the needs and wishes of our Chinese customers. In this way, we are initiating a new era of mobility in China together with our Chinese partners." Volkswagen's chief designer, Andreas Mindt, adds: "With the ID. CODE, we are completely reinterpreting the SUV body. The design demonstrates the elegant and powerful dynamism of a Gran Turismo and is at the same time extremely likeable. The interactive lighting and display systems that this Volkswagen uses to interact with people will also generate excitement."

**Designed by Volkswagen.** The unusually clear and athletic body design of the ID. CODE embodies the new Volkswagen design strategy. The strategy defined by Andreas Mindt is based on three pillars: stability, likeability and the 'secret sauce'; the latter stands for

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features and shapes that surprise and create excitement. These three pillars will determine Volkswagen's global design from now on. They are defined in such a way that the international Volkswagen design team around Andreas Mindt can specifically respond to the special wishes and requirements of individual large markets such as China. And that's exactly what has happened with the ID. CODE. Andreas Mindt: "We have adapted the three pillars of our design strategy and customised them individually for China in order to realise the automotive ideals of our customers between Beijing and Hong Kong. This has resulted in an interpretation of tomorrow's SUV that looks both fast and futuristic, and which sets completely new accents with its fluid surfaces, dominant wheel housings and technology-oriented look." Each of the three pillars of the Volkswagen design strategy shapes the new ID. CODE:

**Stability – full of energy.** It is the combination of the unusually sleek and thus sporty cabin for an SUV, and the very powerful wheel housings, that lend the ID. CODE an impressively stable stance on the road. The wheel housings frame the door surfaces with their extremely clean design and become a dominant design theme in themselves. The concept vehicle also gives a new interpretation to the iconic C-pillars of the first Golf: designed as D-pillars in the ID. CODE, they create a visual impression of added stability, solidity and sportiness.

**Likeability – distinguished.** The ID. CODE visually conveys its high-tech features and distinguished superiority with a smile. The designers have created this likeable charisma through the cleanly-cut shapes of the perfectly designed golden ratio of the body and graphic elements such as the friendly appearance of the front end. The theme of friendliness can be experienced in a particularly intense way thanks to the interactive lighting systems, which lend the ID. CODE painted in Horizon blue a human appearance.

**Secret sauce – inspiring.** Andreas Mindt has already said that Volkswagen is presenting a completely new aesthetic design for SUVs with the ID.CODE. For the first time, the designers have realised a sleek body with flowing shapes on the technical base of an SUV. That is inspiring in itself. The human, interactive twinkling eye feature of the new lighting systems is the secret sauce that breathes virtual life into the concept car. In addition, Al-powered interaction enables a new level of human-machine communication.

**Autopilot – Level 4.** The ID. CODE has been systematically designed for fully automated driving at Level 4. If the driver activates this autonomous mode, they become a passenger, can read, chat, go online, enjoy movies – whatever they wish. In order to implement this autopilot function, Volkswagen has integrated the most advanced sensor, light, camera and screen systems of our time. They allow comprehensive communication with the surroundings. The systems and drive are supplied with energy not only by a lithium-ion battery, but also by means of a photovoltaic system integrated into the transparent 'energy roof'.

**Interaction with the driver and the surroundings.** The concept car presented in Beijing is the first Volkswagen to fully communicate and interact with its surroundings through its exterior. The ID. CODE is not only a car but also a digital avatar that reacts to other road users and provides its owners with numerous pieces of information and feedback. For this, the ID. CODE is equipped with an intelligent lighting system at the



front: the Light Cloud with interactive 3D Eyes (light bar below the bonnet) and an LED screen in the partially transparent front. The systems become active when the driver or an authorised user approaches. The ID. CODE starts a visual and acoustic welcome scenario and provides the driver and passengers directly with the current weather forecast for the next two hours. In Level 4 autonomous driving mode, the lighting systems at the front and the horizontal tail light bar – which is also equipped with 3D eyes – interact with other road users and thus ensure added safety.

**The car as an avatar – the perfect co-driver.** As another innovation, completely newly developed Smart Windows with semi-transparent displays are integrated in the window surfaces at the sides. As soon as the driver approaches, an Al-assisted avatar appears on the displays of the respective front side window. It provides the driver with important information directly and reminds them to take an umbrella if rain is forecast, for example. The same avatar is also used in the interior – as the perfect co-driver, it supports the driver and provides passengers with information of all kinds.

**Mobile living space.** The interior of the new ID. CODE is a highly variable lounge with online connectivity. Its equipment makes travelling more entertaining and comfortable than ever before. The highest-quality, environmentally friendly and animal-free materials as well as high-end sound, background lighting and air conditioning systems make for travel comfort like in a private jet. The infotainment landscape and the world of operation have been completely redesigned. The avatar familiar from the exterior accompanies the driver and passengers in the interior as described above; the window surfaces become the digital stage of the avatar and other displays. The comfortable seats can be adapted to the respective driving mode. The steering wheel retracts into the cockpit during Level 4 autonomous driving. This creates additional space to rotate the front seats by 180 degrees so that members of a family can, for example, sit opposite each other making it easier to communicate with each other. It is also possible to move the seats to a sleeping position for longer journeys. The interior of the ID. CODE thus becomes a new, mobile living space.



#### Key aspects

### THE EXTERIOR DESIGN AND TECHNOLOGIES IN DETAIL

**SUV jet.** Defining style elements for the energy-charged design of the ID. CODE are the powerfully sculpted bonnet, the elongated window line, the straight character line between the dominant wheel arches, the iconic D-pillars and the roof extending extremely far back in coupé style. The charismatic design features of the ID. CODE include the fact that the body surfaces are strikingly clean and smooth and appear almost fluid – similar to a jet aeroplane with metal surfaces that reflect the sun and the sky. This look is reinforced by the exterior colour of the ID. CODE: Horizon blue. This visual appearance is particularly pronounced in the area of the newly designed side waistline – the flying silhouette which is drawn in between the wheel arches as on a sports car. Andreas Mindt: "We have deliberately created a clean look here, even omitting details such as conventional door handles, placing the focus only on the wheel arches and the homogeneous surfaces in between. This highly aesthetic and powerful clarity is the dominant theme."

#### The front

**Sculptural bonnet.** The ID. CODE is the face in the crowd. Every detail of the front shows absolute individuality. The bonnet is a perfect example of this. As a new interpretation of SUV aesthetics, it has a low homogeneous surface in the middle which rises sculpturally outwards towards the wings, where it rests elevated at the sides. As a result, its contours can also be seen in the side view; this iconic design feature visually lengthens the bonnet.

Light Cloud and 3D Eyes. A narrow, horizontal 3D light strip – the Light Cloud – extends to the left and right of the illuminated Volkswagen logo beneath the powerfully and cleanly designed bonnet. 967 LEDs and the U-shaped 3D Eyes are integrated into the Light Cloud in the left and right areas of the horizontal bar divided by the illuminated Volkswagen logo. The five-layered and three-dimensional structure of these 'eyes' reveals a completely new visual depth and allows an interactive way of communicating with the environment. In autonomous Level 4, for example, movement of the 'eyes' is simulated – pedestrians intuitively perceive this movement as a signal. The 3D Eyes and the Light Cloud also interact together: the upper light bar not only lights up white as usual, but also in different colour hues depending on the situation and driving mode. It synchronises with the Light Screen integrated in the bumper. In this way, the ID. CODE can thank other road users visually with a heart in the Light Screen defines a new, unmistakeable Volkswagen light signature that stands for stability, strength and likeability.

**Light Screen.** The main area of the bumper features the interactive Light Screen as a further technology highlight. It visually displays information such as the weather forecast as soon as the driver approaches the Volkswagen. If the Light Screen is not active, the bumper painted in the vehicle colour appears to be completely closed. This is because the paint is transparent in the area of the Light Screen, so the information shines through the bumper. The Light Screen synchronises its HMI (Human Machine Interface) displays with the light visualisation of the Light Cloud and the 3D Eyes.



- Four Seasons welcome mode. The interactive light combination of Light Cloud, 3D Eyes and Light Screen is active in the Four Seasons mode as standard. The light signature automatically changes every three months to match the spring, summer, autumn and winter seasons. In the Four Seasons welcome mode, the 3D Eyes are first activated by the light from the logo. The 'eyes' of the ID. CODE then always look in the direction of the approaching person. If the person is recognised, a welcome scenario begins in which the light surfaces open from the central Volkswagen logo to the sides. The appearance of the light strips varies in different shades of the same colour; the 3D Eyes subsequently change to Twinkle mode in the same colour. Finally, the overall lighting turns white the 3D Eyes now smile; 'Welcome' is displayed in parallel on the Light Screen.
- **Example scenario: spring.** The welcome scenario starts as soon as the driver approaches the ID. CODE. In spring, cherry blossoms are visualised and a matching spring melody is played via the sound system.
- Weather welcome mode. Weather mode can be activated as a welcome scenario as an alternative to the Four Seasons mode. The current online weather forecast is used here. For example, if the driver leaves the house on a cloudy day but the sun is set to break through for the next two hours, the ID. CODE responds with display of a 'Sunny Welcome'. Conversely, 'Thunderstorm' can also be displayed as a welcome scenario if the weather is about to change. The forecast is always provided for the next two hours and is therefore up to date.

**Matrix light in the bumper.** The functions of the lighting concept are structured in several parts: the actual headlight functions such as dipped beam and main beam are performed by vertically arranged HD matrix elements on the left and right in the bumper. At the very bottom, in the centre of the front spoiler, there is also a radar sensor, the frame of which lights up in active Level 4 mode to signal that the ID. CODE is driving autonomously.

**Centre Pilot.** The ID. CODE is extremely aerodynamic. Volkswagen has integrated sensor technology for Level 4 autonomous driving into the aerodynamically optimised design of the concept car. The lidar and camera sensor unit in the upper area at the front is a good example of this: this Centre Pilot – which the ID. CODE uses to recognise its surroundings – is located completely behind the windscreen. The periphery of the Centre Pilot is illuminated as soon as the Volkswagen is driving autonomously in Level 4.



### The silhouette

**Electrically opening doors.** The side view of the ID. CODE is characterised by the dominant wheel arches, the clean and drawn-in door surfaces in-between, the long and narrow window graphic, and the coupé-like rear end with the reinterpreted rear roof pillar. Level 4 sensors have been fully integrated into the design. For stylistic and aerodynamic reasons, small touch panels are used in the window frame (B-pillar) instead of conventional door handles – the doors thus open and close electrically. The standard exterior mirrors are replaced by exterior cameras, which are located in extremely thin and aerodynamically optimised wing housings; in purely graphic terms, they form an extension of the large bonnet right into the silhouette. When Level 4 is active, the housings are illuminated on the outside. The same applies to the surrounds of the radar sensors integrated in the side members of the rear doors.

**Sporty, flat side contour.** The design criterion of stability is especially shown by the pronounced wheel arches, which serve as orientation for the entire body architecture of the ID. CODE. The surfaces above the wheels – the bonnet and the window graphic – were designed to be very flat. As a result, the concept car has an exceptionally stable appearance and sits well on the road.

• Smart Windows. Volkswagen has integrated the newly developed Smart Windows with a semi-transparent display into the vehicle side. In one of these Smart Windows, an Al-assisted human avatar appears as soon as an authorised user approaches the Volkswagen. Based on the preset preferences and the current scenario, the avatar actively starts a conversation to offer its services. For example, if sunny weather is predicted, it reminds you to use sunscreen. In addition, widgets are displayed on the rear door window screen that are synchronised with the interior HMI systems. Authorised users can adjust the settings directly to their needs in a mobile app, for example, to display battery status, range or weather conditions. A reminder function can also be set in order to not forget important things at home or in the office, or to remember an upcoming inspection, for example.

Wheel rims as perfection in detail. At Volkswagen, the special features are also reflected in the design details. The newly developed 24-inch alloy wheels are a prime example of this. Here, the wheel designers have combined the principle of visual simplicity with a technical masterpiece of lightweight construction. The design of the wheel rims is extremely clear and therefore iconic. A dominant feature here is a 3D-milled aluminium structure with five large outer spokes. They are made of light-coloured aluminium and transition into five dark-blue twin spokes towards the inside. The ultra-light aluminium structure of the five spokes is double-walled to achieve maximum stability with minimal use of materials. The extremely lightweight wheel rims are optimised in the outer areas by dark-blue aerodynamic surfaces with vertical struts – these surfaces reduce the air resistance of the wheel rims and also dissipate the heat generated during braking. As a particular innovative highlight, the wheel rims feature illuminated Volkswagen logos in the wheel centre for the first time.



### The rear end

**Flow-through roof spoiler.** The roof spoiler extending far back over the rear window is particularly striking. It is open in the area of its connection to the roof. This causes the air to flow over and under the spoiler. This has two advantages: the underflow optimises the aerodynamics and also blows the rainwater off the window to optimise the view to the rear.

**3D Eyes also at the rear.** The rear cameras are integrated centrally under the roof spoiler. When Level 4 mode is active, they are framed by a light signature. The same applies to the Flying Rails – the ultra-flat and visually floating roof rails. In autonomous mode, their end areas above the boot lid are illuminated. Below the rear window, the LED band of the tail lights spans the entire boot lid and extends far into the wings as a narrow horizontal strip. This strip and the general horizontal design of the rear area emphasise the width of the concept car. As at the front, 3D Eyes are also integrated in the outer area and interact with the surroundings. In this case, the Volkswagen logo integrated into the middle of the split horizontal strip is illuminated in red. Similarly to the lighting system at the front, the ID. CODE or the driver can thank other road users visually via the tail light bar and the 3D Eyes. The boot lid extends far down to the low load sill. There are two additional radar sensors on the left and right in the lower area of the bumper – their surrounds are also illuminated when Level 4 is active. The aerodynamics of the ID. CODE are optimised in the lower rear area by a three-dimensional diffuser.

### THE DESIGN AND TECHNOLOGIES OF THE INTERIOR IN DETAIL

The interior becomes a living space. The interior of the new ID. CODE is a highly variable lounge with online connectivity. Its equipment makes travelling more entertaining and comfortable than ever before. The highest-guality, environmentally friendly and animal-free materials as well as high-end sound, background lighting and air conditioning systems make for travel comfort like in a private jet. The infotainment landscape and the world of operation have been completely redesigned. The avatar familiar from the exterior accompanies the driver and passengers in the interior; the window surfaces become the digital stage of the avatar and other displays. The comfortable seats can be adapted to the respective driving mode. The steering wheel retracts into the cockpit during Level 4 autonomous driving. This creates additional space to rotate the front seats by 180 degrees so that passengers can sit opposite each other. It is also possible to move the seats to a sleeping position for longer journeys. Another innovative detail is the centre console. It is integrated on a rail so that it can be moved; the console also contains a refrigerator. The drink holder in the centre console has a dual function. In the lower position, it is a conventional drink holder; if it is pushed upwards in the console, it becomes an elegant lamp. The interior of the ID. CODE thus becomes a mobile living space.

**New display landscape.** The displays not only use the conventional positions in the cockpit (augmented-reality head-up display) and in the centre console, but also – as all-round Smart Windows – the side windows and the front passenger side of the windscreen. Depending on the mode and display, the Al-assisted avatar can be shown here in order to use its services. Realistic 3D scenarios are displayed in a completely newly developed Wide-R screen, which covers the entire inside width of the ID. CODE



and extends into the doors. Widgets in the side windows can be used to display information such as the weather forecast, battery status, navigation map, navigation instructions or the media library. The functions are controlled via touch panels, voice and gesture control.

**Multi-variable seats.** With their exceptionally good ergonomics and design, the four individual seats of the ID. CODE are more like first-class seats in commercial aircraft than ordinary car seats. They can be rotated, variably adjusted and adapted to the respective travel mode. The seats can also be swivelled outwards to make it easier to enter and leave the vehicle.

**Self-driving mode.** If the ID. CODE is driven actively, the driver seat is adjusted precisely for this. The multi-function steering wheel is thus in an ideal ergonomic position. The driver is supported by the AI-assisted avatar. The conventional infotainment system cockpit is no longer present in the ID. CODE. Instead, visual information is shown to the driver by means of the augmented-reality head-up display. As this information is projected virtually in front of the windscreen or into the traffic situation thanks to augmented reality, the driver can fully concentrate on driving. Passengers can adjust their seats, air conditioning, sound, infotainment and light settings individually. While the front passenger may have adjusted the seat to a sleeping position and dimmed the light, passengers in the rear may be reading a book in perfect light while in an upright sitting position or listening to the latest online news.

**Autonomous mode.** If the ID. CODE is driving in Level 4 mode, the situation on board changes completely if required. In this mode, the steering wheel elegantly disappears into the dash panel; this creates space and enhances the living room character. The seats can now be rotated into Family mode, for example. In this case, the front seats are rotated 180 degrees to the rear – the front and rear passengers are now seated opposite each other.

**Hygiene mode.** If no one is on board the ID. CODE, the time can be used to put the car into Hygiene mode. The air in the car is cleaned by UV light, a robot vacuum cleaner (LUPO) and the antibacterial air filters. This mode is particularly helpful after a long trip with the children and is especially beneficial if the spacious ID. CODE is used as a shuttle.

### NOTES

1. ID. CODE: Concept vehicle