

we want to be selling one million of these vehicles annually. We are making electric mobility the new trademark of Volkswagen."

The I.D. BUZZ zero-emissions vehicle conceptually follows the new Volkswagen brand strategy. Its claim is: "We make the future real." Four fields of innovation form the basis for this strategy:

- **Smart Sustainability**—Volkswagen is advancing the development of innovative high-volume electric car models
- **Automated Driving**—Volkswagen will make cars even safer and more comfortable by means of autonomous driving
- **Intuitive Usability**—Volkswagen is focusing on cars that are intuitive to operate and feature new display and control concepts
- **Connected Community**—In the future, Volkswagen will interconnect humans, cars and the environment with a Volkswagen user identity

Volkswagen is showing just how multifaceted electric mobility can be in Detroit with the I.D. BUZZ concept vehicle—maximum space utilization with all-wheel drive, electric motors at the front and rear axles, a fully-autonomous driving mode ("I.D. Pilot") and a new generation of display elements and controls.

The "I.D. BUZZ" name was hardly an arbitrary choice. I.D. stands for "Identity," "Idea," "Individual," "Intelligent" and "Iconic Design". BUZZ, on the other hand, is a phonetic word play on "bus" and refers to the silent "buzzing" of the drive system.

"The I.D. BUZZ is a next-generation vehicle based on the new Modular Electric Drive Kit (MEB), offering comfort and plenty of space," says Dr. Frank Welsch, Volkswagen Member of the Board of Management responsible for Development. "The overall concept of the I.D. BUZZ points the way to the future. This concept vehicle is the world's first electric multi-purpose vehicle to be equipped with a fully autonomous driving mode. It carries the feeling of freedom of the Microbus over to a completely new era of mobility."

Thanks to its MEB underpinnings, space utilization is better in the I.D. BUZZ than in any other electric vehicle. An excursion with two families over the weekend? A gig with the band in another city? A vacation trip with bikes and boards? Driving to a business meeting with colleagues who need to prepare on the way? None of these scenarios pose a problem with the multi-variable seating layout and interactive networking of the I.D. BUZZ. Using an extended MEB-XL platform, this concept vehicle—which is 194.6 inches long, 77.8 inches wide and 77.3 inches tall—offers an extraordinarily spacious interior for its class.

The I.D. BUZZ is not only huge inside, but its technical concept makes it one of the world's most comfortable cars. It has a silent drive system and an extremely long wheelbase of 129.9 inches. The floor-mounted battery lowers the vehicle's center of gravity and delivers ideal weight distribution. The suspension layout—including multi-link rear suspension with integrated drive units and decoupled subframes at front and rear, as well as air suspension at the rear axle using electronically controlled dampers—delivers premium class comfort, high cornering power, and ideal acoustics.

The zero-emissions all-wheel drive system has a total output of 369 horsepower and an NEDC electric driving range of 600 kilometers (270 miles on a predicted U.S. driving cycle). One electric motor at the front axle and one at the rear each deliver a power output of 201 hp, distributed between the two axles by an "electric propshaft." The I.D. BUZZ shown in Detroit can accelerate from 0 to 60 mph in about 5 seconds, with a governed top speed of 99 mph.

The vehicle's 111 kWh battery can be charged to 80 percent of its capacity within 30 minutes using the Combined Charging System (CCS) or an inductive charging interface, with a charging rate of 150 kW. As an alternative, the battery can be charged from any conventional household outlet and at charging stations. The all-wheel drive configuration is just one of several that are conceivable. Thanks to the MEB, it would be just as easy to equip the I.D. BUZZ with a rear-wheel drive setup producing up to 268 hp and a smaller 83 kWh battery, depending on the region and purpose of use.

Automated Driving

The I.D. BUZZ is the world's first fully autonomous multi-purpose vehicle. A slight push on the steering wheel makes it retract and merge into the instrument panel, switching the I.D. BUZZ from manual control to the fully autonomous "I.D. Pilot" mode that could make it into production by 2025. In this mode, the wheel is decoupled from the steering gear via a newly developed steering column system. The ambient lighting then switches from white light ("Drive") to mood lighting that is warm and relaxed. At the same time, the distribution of ambient lighting is extended to the rear seating area. Simultaneously, the status of the I.D. BUZZ can be seen at all times on the tablet and the augmented reality head-up display.

Now driving on its own, the zero-emissions concept has already activated its onboard laser scanners. Four of them extend from the roof in "I.D. Pilot" mode. The cleanly styled roof sensors call attention to the fully autonomous mode by indirect lighting.

The I.D. BUZZ is not only able to detect other road users with its laser sensors, but also with the assistance of ultrasonic sensors, radar sensors, side area view cameras and a front camera. Traffic data is also continually acquired and compared with the vehicle data via the cloud. Fully autonomous mode is deactivated by touching the steering wheel or by pressing the brake or accelerator pedal.

Volkswagen User-ID

I.D. knows who will be at the wheel, thanks to the Volkswagen User-ID. This is an individual profile that stores the personal seat and air conditioning settings, favorite radio stations and songs, sound system settings, exterior sound, configuration of the navigation system, type of ambient lighting and contact information for the driver's friends and business associates. This profile can be retrieved securely via the cloud.

Consequently, the I.D. BUZZ also recognizes which person is entering the car or wants to take the steering wheel at any given time via the authorized user's smartphone—the Digital Key. As soon as a person approaches the vehicle, the sensor surfaces for opening the door light up. If the person's hand is very close to the surface, that individual door is opened. Using the Volkswagen User-ID and a relevant smartphone app, passengers in the vehicle can also control infotainment functions and input intermediate destinations into the navigation system. The route is shown on a tablet.

Exterior Design

The original Microbus is a legend all over the world and forms a global community. Although the I.D. BUZZ is designed for a new era, it would fit in perfectly with its predecessors.

Klaus Bischoff, Volkswagen Head of Design, says: "The I.D. BUZZ is not a retro design on 22-inch wheels; rather, we have taken the logical next step forward in development using what is in all likelihood the most successful design of its kind in the world. The entire design is extremely clean with its homogeneous surfaces and monolithic silhouette. The future and origins of Volkswagen design DNA combine here to create a new icon."

The best example of the interplay of familiar and new elements is the front end with its characteristic "V" and likeable "face"—it's clearly a Microbus, but a completely new interpretation. Oliver Stefani, Head of Volkswagen Exterior Design, says, "Instead of the round headlights used in the original model, in designing the I.D. BUZZ we opted for slender LED systems, which not only turn night into day, but also interactively communicate with other road users and pedestrians." Similar to the compact I.D., the bumpers also integrate a matte aluminum honeycomb design, with illuminated outer sections.

Extremely short body overhangs also define the vehicle. This applies equally to the roofline with its charismatic front overhang and three stylized air vents in the rear roof pillars, a small tribute to the T1. Each detail has, however, been re-interpreted and implemented in a new context.

At the front, wrap-around ambient lighting forms a new era equivalent of chrome trim. It is actually an accent strip made of matte aluminum that is embedded in what designers call a sharp undercut. Indirect ambient lighting has been integrated into this full wraparound undercut, which also forms the "V" of the front hood. When it is dark outside, this creates a unique light signature together with the backlit front and rear VW logos and the lighting elements in the front bumpers.

The I.D. BUZZ is also unmistakable from the rear. Here, the slender full-LED lights and large painted surfaces make up the iconic design. The tailgate extends far down into the bumper to give a low load sill height of just 23.6 inches. Thanks to its compact electric drive, the I.D. BUZZ not only offers a rear luggage compartment of between 23.3 to 162.5 cubic feet, but also a front trunk of 6.1 cubic feet. The doors and trunklids are power operated: opening the tailgate, front doors and rear sliding doors is initiated by sensors outside the vehicle. Thanks to the Digital Key, all the user needs to do is hold his or her hand over a marked area for entry.

There are clear design parallels to the I.D. shown in Paris. The front LED lights, wrap-around LED taillights, homogeneously integrated bumpers, side sills stylistically raised at the center of the door area, laser scanners on the roof and the aluminum-alloy wheel design combine to form the design insignia of Volkswagen's future electric mobility.

There are few cars in the world that look as good in classic two-tone paint as the Microbus, which is why it was a must for the new I.D. BUZZ. The car is painted in Silver Metallic above the seam that integrates the ambient lighting and in Cyber Yellow Pearl Effect below that line. The yellow hue is also found on the sidewalls of the tires, while the 22-inch aluminum-alloy wheels are painted in Galvano Gray Metallic.

The I.D. BUZZ communicates with its surroundings via the LED lighting at the front end. The LED headlights interactively mimic the gestures of the human eye and thus interact with other traffic. The concept vehicle masters these light scenarios:

- **Parking.** When all systems of the I.D. BUZZ are shut down it looks from the front as if its "eyes" are closed. When the I.D. BUZZ is parked, just a narrow, small LED strip is visible in the headlights.
- **Opening.** When the I.D. is "awakened", it greets its driver and passengers with a 360-degree light show. First, the Volkswagen logos light up. This is followed by the wrap-around ambient lighting. In the final phase of this light show, the I.D. BUZZ opens its "eyes."
- **Driving.** The Volkswagen logos, wrap-round ambient lighting, Daytime Running Lights and the LED headlights are always active while driving. As the car accelerates, the "eyes" adjust to the higher speed by adopting a more dynamic light signature.
- **Automated.** A distinctive feature of the fully autonomous driving mode is that the laser scanners in the roof are extended and illuminated. As the car speeds up, the LED "eyes" look ahead, giving the car a sportier appearance. In addition, the "eyes" are interactive in the fully autonomous driving mode. If the I.D. BUZZ wants to turn, for instance, the LED headlights look in the direction the car is going to turn. To top it off, if the vehicle detects people at the side of the road, it looks at them. Through this interaction, the Volkswagen alerts pedestrians and cyclists to its presence.

Interior Design

"The design of the concept places people as the focus; it should appeal to them and invite them to come in," says Klaus Bischoff. Awaiting them there is an interior that combines the world of the automobile with the atmosphere of a lounge. Tomasz Bachorski, Head of Interior Design of the Volkswagen brand, explains the next era of interior design: "From now on, we will be networking the vehicle much more intensively to make it more interactive. The interior will become a sort of family room, a mobile place where you feel at home."

As a result, the classic cockpit no longer exists in the I.D. BUZZ. In place of traditional instruments or controls is an intuitively operated cockpit consisting of:

- **Touch-sensitive steering wheel** (multifunction steering wheel with capacitive surfaces)
- **Augmented reality head-up display**
- **"I.D. Box" center console** (including a tablet usable outside the vehicle)

In the "I.D. Pilot" mode, the front seats can be electrically unlatched and rotated so they face the rear, after the "I.D. Box" multifunctional center console is moved rearward. The seating system is flexibly designed to be like the living space at home or a lounge area. This versatility is based on a seat rail system that is integrated in the flat floor and on adjustable and folding seats. The seatbacks of the individual second row seats can be folded to form tables. At stops, the third row can be made into a bed, enabling the I.D. BUZZ to be used for overnight voyages. When the trip is resumed, clever detail solutions make travel more pleasant, such as softly padded rear side sun visors that can be moved and are designed so that a passenger can lean on them. Individually placeable cushions also underscore the cozy atmosphere of the interior, which is flooded with light thanks to its large windows and two-part panoramic roof.

The warm interior colors are also in keeping with the lounge character. For instance, the dashpad in front of the driver and front passenger transitions from Magnet Metallic to Moon White Metallic, and the dashpad and door panel structures are illuminated by the ambient lighting as well. Stylish details include:

- **Wood floor.** The floor is made of fine, Silver Birch wood. The bright color underscores the cozy character of the interior. In the rear seating area, aluminum inlays in the wood take up the honeycomb pattern of the dashpad and touch-sensitive steering wheel as well as the front bumper.
- **Door trim.** The top sections of the doors are covered with sophisticated metallic leatherette. The interplay of color is underscored by the transition from the darker driver's area to the brighter passenger zone. The designers have upgraded the lower sections of the door trim panels with a cream-colored knitted fabric throughout the rear seating area.
- **Seat fabrics.** Seats are covered in an innovative knit fabric that features a graduated honeycomb pattern. The refined knitting technique used to produce the individual diamond shapes allows a light metallic background material show through. Accentuated yellow details such as piping and seat belts showcase the fresh look of the I.D. BUZZ while creating a connection between exterior and interior.

As soon as the driver's seat is occupied, the steering wheel, which is retracted into the dashpad in parking mode, extends out, and the indicators and buttons on the steering wheel light up simultaneously. In parallel, the I.D. BUZZ activates the augmented reality head-up display and the tablet in the "I.D. Box." The ambient lighting also greets the driver. Close the doors, buckle up, press the brake pedal and select a gear and the I.D. BUZZ is immediately ready to start. The concept car is shut off by the "P" button on the steering wheel. When finished, the steering wheel retracts flush into the cockpit panel.

The steering wheel of the I.D. BUZZ does not have any spokes. The wheel, trimmed with Nappa leather, is more of an interactive touchpad. This touch-sensitive steering wheel is a new concept, which allows the driver to operate the drive modes (P, R, N and D), turn signals and various menu functions as well as settings for the head-up display via touch-sensitive areas on its surface.

The outer region of the touchpad has a honeycomb-like light signature, as does the dashpad ahead of the driver and front passenger. Pressing on the illuminated VW logo in the middle of the touch-sensitive steering wheel initiates a switch between the "Drive" mode and "I.D. Pilot" mode; the steering wheel then retracts or extends accordingly.

The "I.D. Box" fits the character of the I.D. BUZZ perfectly. When the vehicle is being driven by someone, the I.D. Box is positioned between the front seats. In this case, the integrated tablet in the console is positioned to serve as a display and control surface for the driver and front passenger. The I.D. Box is also equipped with loudspeakers from Beats®, which are interconnected with the passengers' smartphones and the sound system via Bluetooth®. When the driver switches to the "I.D. Pilot" mode, the entire "I.D. Box" moves towards the rear. Other console features include cupholders and a folding table. The console tablet (like the Beats speakers) is easy to unsnap and remove from the vehicle

The Volkswagen I.D. lets the I.D. BUZZ know who the driver is. The individual vehicle settings are configured accordingly, and features such as the person's calendar are shown on the tablet. The I.D. BUZZ also knows the

driver's friends via the Volkswagen I.D. Based on this information, the car might recommend meeting with friends or suggest activities that would fit into the day's schedule.

In "I.D. Pilot" autonomous mode, the system informs the driver on the tablet about changes to the calendar, for instance. If the I.D. BUZZ passes one of the driver's favorite shops or a favorite restaurant, the car informs the driver via the tablet about the current offerings at these personal points of interest. A new era of interactive and personalized online services is beginning with the I.D. BUZZ.

Like the compact I.D., the I.D. BUZZ is equipped with an augmented reality head-up display. Information such as navigation directions are projected as virtual images from 23 to 49 feet ahead of the car. The effect is astonishingly realistic. Directions are projected via augmented reality to show exactly where the driver is heading. Thanks to the head-up display, the navigation instructions are now part of three-dimensional surroundings that the driver can experience. Drivers can use the touch-sensitive steering wheel to modify the type and amount of information shown, adapting the system to their individual needs.

Three levels of information density are available here:

- Level 1: "Navigation," "Speed" and "Battery indicator"
- Level 2: Level 1 plus "Phone" (in "Drive" mode) and "Local offerings" (in "I.D. Pilot" mode)
- Level 3: Levels 1 and 2 plus "Friends" along the route (in "Drive" mode) and "Messages" (in "I.D. Pilot" mode)

There are no rearview mirrors in the I.D. BUZZ. Cameras and a display have taken over that function. Where there would normally be a rearview mirror, there is a screen called the e-Mirror. Here, a monitor combines data from the exterior mirror cameras on the left and right of the vehicle and from a camera that faces directly rearward. Doing away with the side mirrors improves the aerodynamics of the vehicle.

The lighting mood of the interior also changes according to the mode. In "Drive", illuminated elements are lit in white. When the driver activates "I.D. Pilot", they switch over to a warm mood color. In addition, the ambient lighting and touch-sensitive steering wheel assume warning and indicator functionality. In "Drive" mode, if the driver wants to change lanes while another vehicle is alongside, a warning signal is shown on the relevant side of the dashpad. This means that the LED warning indicators for the Blind Spot Monitor, which are located in the door mirrors in today's vehicles, migrate into the interior where they are even more obvious to the driver.

About Volkswagen of America, Inc.

Founded in 1955, Volkswagen of America, Inc., an operating unit of Volkswagen Group of America, Inc. (VWoA) is headquartered in Herndon, Virginia. It is a subsidiary of Volkswagen AG, headquartered in Wolfsburg, Germany. VWoA's operations in the United States include research and development, parts and vehicle processing, parts distribution centers, sales, marketing and service offices, financial service centers, and its state-of-the-art manufacturing facility in Chattanooga, Tennessee. The Volkswagen Group is one of the world's largest producers of passenger cars and Europe's largest automaker. VWoA sells the Beetle, Beetle Convertible, CC, e-Golf, Golf, Golf Alltrack, Golf GTI, Golf R, Golf SportWagen, Jetta, Passat, Tiguan and Touareg vehicles through approximately 652 independent U.S. dealers. Visit Volkswagen of America online at www.vw.com or media.vw.com to learn more.

Notes:

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