

## Space travel in the heart of the megacity

- **Audi urbansphere concept offers a radical vision for the future of urban travel**
- **Designed in collaboration with customers, a high-tech interior sets a new benchmark for the passenger in-vehicle experience**
- **PPE technology platform with an electric drive system**

**Ingolstadt, April 19, 2022. Systematically designed from the inside out, Audi has unveiled plans for the Audi urbansphere concept car. Designers and engineers initially created the Audi urbansphere for use in traffic-dense Chinese megacities, although the concept is also suitable for any other metropolitan center in the world. In these urban areas, where personal space is in particularly short supply, the concept car offers the largest interior space of any Audi to date. It intelligently coordinates this with technologies and digital services that appeal to all the senses and offer a whole new level of experience.**

“In order to meet the demands of our Chinese customers, Audi’s design studios in Beijing and Ingolstadt worked together closely to jointly develop the Audi urbansphere concept car,” says Markus Duesmann, Chairman of the Board Management at AUDI AG and responsible for the Chinese market. For the first time, potential customers in China could also take part in the development process, contributing their own desires and perspectives as part of a process known as “co-creation”.

The result can be seen in the Audi urbansphere concept and its particularly striking interior. The spacious automobile acts as a lounge on wheels and a mobile office, serving as a third living space during the time spent in traffic. To this end, the Audi urbansphere combines the luxury of complete privacy with a comprehensive range of high-tech features on board, even during the daily rush hour. Automated driving technology transforms the interior, in which a steering wheel, pedals, or displays are notably absent, into a mobile interactive space that provides a gateway to a wider digital ecosystem.

### **Audi sphere – first class to the power of three**

Audi skysphere, Audi grandsphere, and Audi urbansphere are the three concept cars that the brand with the four rings has developed to showcase its vision for the world of premium mobility of tomorrow. In the process, Audi is creating a vehicle experience that goes far beyond the purpose of merely spending time in a car to get from point A to point B.

Sphere number 1: The electrically driven roadster Audi skysphere concept debuted in August 2021. It presented a spectacular vision of a self-driving GT that transforms into a self-driving sports car with a variable wheelbase.

Just a few weeks later, Audi unveiled the second model in the sphere series, the Audi grandsphere concept, at the IAA 2021. This large four-seater sedan exemplified the brand's ambition to define the future of progressive luxury.

What both concept cars have in common with the Audi urbansphere is that the entire concept is based on level 4 autonomous vehicle technology. Audi is currently working with CARIAD, Volkswagen Group's software business, to introduce this technology within the second half of the decade.

### **Interior size**

Even at first glance, the Audi urbansphere concept reveals itself to be the largest model in the sphere family and of all Audi concept cars to date. Its grand dimensions – 5.51 meters (*18 feet*) long, 2.01 meters (*6.6 feet*) wide, and 1.78 meters (*5.8 feet*) high – place it in the upper echelons of the automotive world, yet the Audi urbansphere concept radically breaks with the conventions of the segment.

This is because it has been systematically designed around its passengers, from the inside out. The most important dimension is the unrivaled wheelbase of 3.40 meters (*11.2 feet*). The interior of the Audi urbansphere is not subject to the conventional maxim of squeezing as many seats, storage compartments, and functional elements as possible into a space limited by the physics of driving. Instead, it prioritizes the occupants' need to experience ample space as a distinctive comfort factor.

„To make e-mobility even more attractive, we think about it holistically and from the customer's needs,” says Markus Duesmann. More than ever before, it is not just the product that is decisive, but the entire ecosystem. That is why Audi is creating a comprehensive ecosystem with services for the entire car. The Audi urbansphere concept also offers everyone onboard a wide range of options to use that freedom to provide a highly-personalized in-car experience: communication or relaxation, work or withdrawal into a private sphere as desired. As such, it transforms from being strictly an automobile into an “experience device.”

Thanks to Audi's own options and the ability to integrate digital services from other providers, the possibilities are nearly endless. These can be used to access a wide range of services related to the current trip. The vehicle also takes care of everyday tasks that go beyond the ride itself – such as making dinner reservations or shopping online from the car. In addition, the autonomous Audi urbansphere concept picks up its passengers at home and independently takes care of finding a parking space and charging the battery.

Customized infotainment offerings are also available, such as the seamless integration of onboard music and video streaming services. Audi will also offer customers exclusive perks, including access to concerts, cultural events, and sporting events based on their individual preferences.

### **The architecture – from the inside out**

Even the “sphere” in the name sends a signal: the heart of the Audi skysphere, grandsphere, and urbansphere concept vehicles lies in its interior. That makes the inner space the foundation of the vehicle’s design and technology and therefore the occupants’ living and experience sphere while on the road.

Their needs and desires shape this space, its architecture, and all of the integrated functions. As a result of this shift, the design process itself also changes. At the beginning of all discussions, the focus is solely on the interior. Only then are the package, exterior lines, and proportions designed, along with the technological specifications, turning the automobile into a complete work of art.

### **Surface, form, function – the interior**

The doors of the Audi urbansphere concept are counter-hinged at the front and the rear; there is no B-pillar. As a result, the whole world of urbansphere interior opens up to passengers as soon as they climb in. Seats that swivel outward and a red carpet of light projected onto the ground next to the vehicle transform the very act of entering the car into an experience of comfort.

A wheelbase of 3.40 meters (*11.2 feet*) and a vehicle width of 2.01 meters (*6.6 feet*) delineate what is a more than stately footprint, even for a luxury-class automobile. Together with 1.78 meters (*5.8 feet*) of headroom and expansive glass surfaces, these dimensions provide an exceptionally spacious experience of the interior.

Four individual seats in two rows offer passengers luxurious first-class comfort. The seats in the rear offer particularly generous dimensions and a wide range of adjustment options. In Relax and Entertain modes, the backrest can be tilted up to 60 degrees while leg rests extend at the same time. The center-mounted armrests integrated into the sides of the seats and their counterparts in the doors create a comforting feeling of security.

The seats also cater to passengers’ changing social needs in a variety of ways. While conversing, they can turn to face each other on their swiveling seats. On the other hand, those who want some seclusion can conceal their head area from the person sitting next to them using a privacy screen mounted behind the headrest. In addition, each seat has its own sound zone with speakers in the headrest area. Individual monitors are also built into the backs of the front seats.

When passengers want to use the infotainment system together, on the other hand, there is a large-format and transparent OLED screen that pivots vertically from the roof area into the zone between the rows of seats.

Using this “cinema screen,” which occupies the entire width of the interior, the two passengers in the back row can take part in a video conference together or watch a movie. Even split-screen use is possible. When the screen is not in use, it offers a clear view into the front thanks to its transparent design or – when folded upwards – through the glass roof area to the sky.

Like in the Audi grandsphere concept, the interior of the urbansphere blends space and architecture, digital technology, and authentic materials into a single entity. The lines emphasize the vehicle's horizontal proportions. The open, wide interior supports the impression of a one-of-a-kind space. The steering wheel, pedals, and conventional dashboard can be hidden during automated driving, which enhances the feeling of transparency and spaciousness.

The seating surfaces and backs of the two seats with integrated seat belts are visually separate. Between the rear seats – normally locked in place in a low position – is a center console that swivels upwards. It contains a water dispenser and glasses – another testament to the Audi urbansphere concept's first-class credentials.

The Audi urbansphere also qualifies as a wellness zone thanks to innovative digital options that emerged in no small part through input from the co-creation process with Chinese customers. Stress detection is a prime example – this adaptive program uses facial scans and voice analysis to determine how passengers are feeling and offers personalized suggestions for relaxation, for example with a meditation app that can be used via the personal screen and the private sound zone in the headrests.

### **Less is more – displays and operation**

In the Audi urbansphere, simplicity has become a design principle. Neither circular instruments nor black screens for virtual display concepts are visible before activating the driving functions.

Instead, passengers find clearly structured and calm zones made from the highest quality materials. Wood and wool, as well as synthetic textile fabrics, are used in paneling, seat coverings, and floor carpets, all of which have a high-quality feel and are pleasant to the touch.

Soft beige and gray tones structure the interior horizontally. A dark, toned-down green serves as the color of the seat shells and soothes the eye. The interior color zones become lighter from top to bottom and, together with the natural light entering the space, create a homogeneous, wide interior.

The vehicle comes to life at the touch of a fingertip, along with a number of displays, albeit in the form of projections on the wooden surfaces below the windshield, which can be surprising at first. Depending on the driving status – whether manual with a steering wheel or level 4 – they are either distributed across the entire width of the interior or segmented for the driver and front-seat passenger, displaying all of the necessary travel information in ultra-high resolution throughout the journey.

In addition, a sensor bar is integrated under the projection surfaces for quick switching between content – for instance, for music or navigation. It shows all the functions and applications that are active in the car. Icons flash for the different menus.

One particular, extremely innovative control element is located near the door cut-out on the interior cladding: the MMI touchless response. If the passenger is sitting in the upright position, far forward in his or her respective area, they can use this element to physically select various function menus via a rotating ring and buttons and click their way through the individual levels, allowing for simple and intuitive operation.

Even if the seat is fully reclined, passengers can still make use of this convenient feature thanks to a combination of eye-tracking and gesture control. A sensor directed at the eye detects the line of sight when the control unit is to be engaged. And the passenger only needs to make hand movements that are similar to physical operation – without leaning over – to operate the system without touching a thing.

Whether it is eye-tracking, gesture or voice control, or touch, the same thing applies to all operation modes: the Audi urbansphere concept adjusts to the individual user and learns his or her preferences and frequently used functions – and on that basis, it can not only sensibly complete rudimentary commands but also give personalized suggestions directly to the user.

Control panels are even integrated into the armrests on the doors. That way, the car always offers passengers invisible touch surfaces using an optic indicator to show its position. At the same time, there are VR glasses in the armrests on the left and right doors that can be used in conjunction with infotainment options – for instance for the Holoride system.

### **Sustainability as a guiding principle**

Many of the materials in the interior of the Audi urbansphere concept, such as the hornbeam veneers, come from sustainable sources. This choice of material makes it possible to use wood that has grown close to the site, and the entire trunk can be utilized. No chemicals are used during the manufacturing process.

The seat padding is made of ECONYL®, a recycled polyamide. This material can also be recycled after its use in the automobile – without any loss of quality. The fact that the respective materials are installed separately also plays an important role in the ability to recycle them, as mixing them would drastically reduce the potential for recycling.

Bamboo viscose fabric is used in the armrests and in the rear of the vehicle. Bamboo grows faster than ordinary wood, sequesters a great deal of carbon, and doesn't require herbicides or pesticides to grow.

### **Space concept for the luxury class – exterior design**

A grand, undoubtedly self-assured appearance – the Audi urbansphere concept is certain to leave a lasting first impression. A length of 5.5 meters (*18 feet*), height of almost 1.78 meters (*5.8 feet*), and width of more than two meters (*6.6 feet*) are undoubtedly prestigious enough to rub shoulders with the automotive elite.

The flowing silhouette of the vehicle body features traditional Audi shapes and elements, which are combined here to create a new composition featuring the distinctive Singleframe, with the digital eyes of the adjacent lighting units, a widely curved, dynamic roof arch, a massive rocker panel that conceals the battery unit, large 24-inch six double spoke wheels (a reference to the iconic 90's Audi Avus concept car) which convey lightweight design and stability, reminiscent of functional motorsport wheels and the Bauhaus tradition of the brand's design.

The implied wedge shape of the vehicle body is emphasized by the large, flat windshield. At the front and also at the rear, there are large digital lighting surfaces that leave their mark on the design and at the same time serve as communication elements.

The Audi urbansphere defies classification into conventional vehicle categories. Nevertheless, it reveals itself to be a typical Audi at first glance. The similarities to the Audi grandsphere concept are particularly eye-catching. The monolithic design of the vehicle body shares commonalities with these two concept cars, as do the sculpted, soft shape of the wheel arches. A long wheelbase of well over three meters (*9.8 feet*) and short overhangs indicate that this is an electric vehicle. Elegance, dynamism, an organic design language – these are the attributes that immediately spring to mind despite the stately proportions of the Audi urbansphere, just as they do in the significantly flatter grandsphere.

### **Visible technology – light**

In the front end, there is an innovative interpretation of the Singleframe that defines Audi's look: it is shaped like a large octagon. Even though the grille has lost its original function as an air intake on the EV, it still remains prominent as an unmistakable signature of the brand. The digital light surface lies behind a slightly tinted, transparent visor that covers a large area of the front. The three-dimensional light structure itself is arranged in dynamically condensed pixel areas. The upper and lower edges of the Singleframe are still made of aluminum and the vertical connections are formed by LEDs as part of the light surface.

The entire surface of the Singleframe becomes a stage or canvas (known as the “Audi Light Canvas”) and can be used for communication – with dynamic lighting effects to clearly signal to other road users in order to improve road safety. Low beams and high beams are implemented via light segments in the outer sections of the Singleframe and a similarly functioning matrix LED surface is located in the rear.

The lighting units to the right and left of the Singleframe look narrow, like focused eyes. These digital lighting units, known as Audi Eyes, echo the logo of the brand with the four rings, as they enlarge and isolate the intersection of two rings to form a pupil – a new, unmistakable digital light signature.

The illuminated surfaces – and therefore the expression of the eyes – can be adapted to the traffic situation, environment, or even the mood of the passengers. As a daytime running light, the gaze can be focused or open, and the iris can be narrow or wide.

A digitally created eyebrow also functions as a dynamic turn signal when required. Thanks to its outstanding visibility, it makes an unmistakable statement in the service of safety.

One special tribute to China is a luminous accessory that passengers can take with them when they leave their Audi urbansphere – the Audi Light Umbrella, a self-illuminating umbrella. Inspired by traditional Chinese umbrellas, this one acts as a protective companion and multifunctional light source – the inner skin of the umbrella is made of reflective material, so the entire surface acts as a glare-free lighting unit.

The Audi Light Umbrella not only gives users a better view of their path, it becomes more visible – when crossing a street or in dangerous situations, activating a rhythmic flashing of the luminous cone by means of artificial intelligence and sophisticated sensor technology.

And the Light Umbrella also literally places its wearer in the best possible light, given that it evenly illuminates their face for perfect selfies whenever needed.

### **Drive system and charging**

The technology platform of the Audi urbansphere – the Premium Platform Electric or PPE – was designed exclusively for battery-electric drive systems and therefore takes full advantage of all the benefits of this technology. The key element of the PPE is a battery module between the axles, which – as in the Audi grandsphere – holds around 120 kilowatt hours of energy. Audi has succeeded in achieving a flat layout for the battery by using almost the entire base of the vehicle between the axles.

Together with the large 24-inch wheels, this produces basic proportions that are perfect not only from a design perspective. The core benefits include a long interior and therefore legroom in both rows of seats.

Additionally, the absence of a gearbox cover and a cardan tunnel increases spatial comfort in electric cars.

The Audi urbansphere concept's two electric motors are capable of delivering a total output of 295 kilowatts and a system torque of 690 newton meters. These are impressive figures that are often not fully utilized when driving in dense urban traffic. Nevertheless, the Audi urbansphere is still equipped with permanent quattro four-wheel drive – an essential feature for the brand's high-performance models.

The concept car has one electric motor on each of the front and rear axles which, by means of electronic coordination, implements the permanently available all-wheel drive as required, balancing these perfectly against economy and range requirements.

One innovative feature is that the motor on the front axle can be deactivated as required in order to reduce friction and thus energy consumption when coasting.

### **Fast charging, high range**

The heart of the drive system is the 800 volt charging technology. It ensures that the battery can be charged with up to 270 kilowatts at fast-charging stations in the shortest possible time. As such, charging times approach those of a conventional stop to refuel a car powered by an internal combustion engine: just ten minutes are enough to charge the battery to a level sufficient to power the car more than 300 kilometers (*186 miles*). In addition, the battery, which holds more than 120 kilowatt hours, can be charged from 5 to 80 percent in less than 25 minutes. This means that a range of up to 750 kilometers (*466 miles*) can be expected according to the WLTP standard – and even when used for more energy-intensive city and short-distance trips, it is generally possible to avoid making unexpected stops to charge.

### **Air suspension for maximum comfort**

The front wheels are connected via a 5-link axle that has been specially optimized for electric vehicles. In the rear, there is a multi-link axle that, like the front axle, is made of lightweight aluminum. Despite the long 3.40 meter (*11 foot*) wheelbase, the steerable rear wheels provide excellent maneuverability.

The Audi urbansphere concept, like its closest relative the grandsphere, features Audi adaptive air suspension – a single-chamber air suspension system with semi-active damper control. It offers outstanding comfort not only on city highways, but even on the uneven, often patched asphalt of downtown streets with no noticeable body movement.



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The Audi Group is one of the most successful manufacturers of automobiles and motorcycles in the premium and luxury segments. The brands Audi, Ducati, Lamborghini and Bentley produce at 21 locations in 13 countries. Audi and its partners are present in more than 100 markets worldwide.

In 2021, the Audi Group delivered around 1.681 million cars from the Audi brand, 8,405 sports cars from the Lamborghini brand and 59,447 motorcycles from the Ducati brand to customers. In the 2021 fiscal year, AUDI AG achieved a total revenue of €53.1 billion and an operating profit before special items of €5.5 billion. More than 89,000 people all over the world work for the Audi Group, around 58,000 of them in Germany. With its attractive brands, new models, innovative mobility offerings and groundbreaking services, the group is systematically pursuing its path toward becoming a provider of sustainable, individual, premium mobility.

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