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Mladá Boleslav / Shanghai, 18 April 2017

## ŠKODA AT AUTO SHANGHAI 2017

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## ŠKODA at Auto Shanghai 2017: Highlights at a glance

Mladá Boleslav / Shanghai, 18 April 2017 – At the Auto Shanghai exhibition (19-28 April 2017), ŠKODA is celebrating the world premiere of its first fully electrically powered concept car. With the VISION E ŠKODA is underlining its future strategy in the field of electromobility. Here is an overview of the most important information.

### VISION E

- › **CONCEPT:** the first fully electrically driven concept car in the history of ŠKODA; developed based on Volkswagen Group's MEB (modular electrification toolkit)
- › **KEY FIGURES:** two electric motors with a total power output of 225 kW; all-wheel drive; a range of up to 500 km; top speed of 180 km/h; autonomous driving at level 3 possible
- › **DIMENSIONS:** length 4,688 mm, width 1,924mm, height 1,591 mm, wheelbase 2,851 mm
- › **EXTERIOR DESIGN:** strikingly shaped bonnet; a gently sloping roofline accentuates the coupé character; forgoes B-pillars; front section with an LED lighting strip running the entire width of the vehicle; narrow, triangular headlights in a crystalline look; headlights with Matrix LED technology; rear-hinged rear doors; cameras that relay what is happening around the vehicle, therefore no wing mirrors; alloy wheels with a futuristic design; rear section with a sculptural design; tail lights with LED technology
- › **INTERIOR:** spacious interior; due to the concept, the transmission tunnel is omitted in the front and rear providing more width; an ample amount of space; horizontal lines; rotating, body-contoured individual seats for getting in and out of the car comfortably; slightly raised seating position; multiple touch displays for driver and front passenger; central touchscreen in the middle of the dashboard; Phoneboxes on the inside of the doors
- › **DRIVER ASSISTANCE SYSTEMS:** numerous systems for improved safety and comfort; new: Traffic Jam Assist, autopilot for motorway driving; car park autopilot
- › **DISPLAY AND OPERATING CONCEPT:** digital HMI; gesture control; voice control; Eye Tracking; Driver Alert fatigue detection; heart rate monitor
- › **INFOTAINMENT AND ŠKODA CONNECT:** latest generation of infotainment systems; capacitive touchscreens in the ŠKODA glass design; occupants are 'always online' thanks to an integrated Wi-Fi hotspot and an LTE module
- › **'SIMPLY CLEVER':** inductive, that is to say wireless, charging using a floor panel; thanks to quick charging, it only takes 30 minutes to reach 80 per cent of the battery's capacity; seats that slide backwards and a movable steering wheel for autonomous driving; seats can be rotated by up to 20 degrees



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## ŠKODA e-mobility

- › **CONCEPT:** fully electrically driven cars; in typical ŠKODA style: a long range, easy-to-use charging technology and outstanding economic efficiency
- › **OBJECTIVES:** in addition to plug-in hybrid vehicles, ŠKODA will have five fully electric cars in its range by 2025; from that point onwards, one in every four ŠKODA models sold worldwide will have a plug-in hybrid or purely electric drive



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Short version

## **ŠKODA at Auto Shanghai 2017: The first ŠKODA concept car with electric drive and an outlook on the company's electromobility strategy**

- › The first fully electrically driven concept car in the history of ŠKODA
- › Two electric motors with a total power output of 225 kW
- › A range of up to 500 km thanks to powerful lithium-ion batteries and intelligent brake energy recovery
- › Level 3 of autonomous driving possible
- › Modern ŠKODA design language with crystalline design details is continued
- › Electromobility as a central element of ŠKODA's global growth strategy
- › Outlook: in 2025, one in every four newly registered ŠKODA cars will be plug-in hybrids or have a purely electric drive system

Mladá Boleslav / Shanghai, 18 April 2017 – ŠKODA presents a look into the future of the company at the Auto Shanghai exhibition (19-28 April 2017): with the VISION E and an outlook on electromobility, ŠKODA is presenting its growth strategy in impressive style. VISION E is the name of the first purely electrically powered concept car in the long-established Czech brand's history, which spans over 120 years, and bears unmistakable features of the ŠKODA design language with its futuristic design. The generous amount of space, state-of-the-art assistance systems and ŠKODA Connect services as well as numerous 'Simply Clever' features are typical of ŠKODA. ŠKODA is also making electromobility 'Simply Clever' with a long range, easy-to-use charging technology and outstanding economic efficiency. In addition to plug-in hybrid vehicles, ŠKODA will also have five fully electric cars in its range by 2025. Then, one in every four cars sold by the brand worldwide should be a plug-in hybrid or have a purely electric drive.

The ŠKODA VISION E is based on Volkswagen Group's MEB (modular electrification toolkit) and, with its two electric motors, has a power output of 225 kW. This allows the VISION E to accelerate particularly smoothly and also extremely dynamically up to its top speed of 180 km/h. Thanks to the efficient and powerful lithium-ion batteries and an intelligent brake energy recovery system, a range of up to 500 km is achieved. Furthermore, the VISION E can also drive completely autonomously and reaches level 3.

### **The design of the VISION E**

The ŠKODA VISION E is 4,688 mm long, 1,924 mm wide and has a height of 1,591 mm. Due to the long wheelbase – 2,851 mm – and the short front and rear overhangs, a very generous and comfortable interior has been created in typical ŠKODA style. The future-oriented car combines an SUV-style raised seating position and a hatchback's generous amount of space with a dynamic silhouette and a gently sloping roofline in the style of a coupé.

"Over the last few years, with our ŠKODA design language, we have produced several sensational concept cars that point the way to the brand's future," said Karl Neuhold, Head of Exterior Design at



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ŠKODA. "The new ŠKODA VISION E is now presenting the next step towards a future-oriented design."

The modern ŠKODA design wows with harmonious proportions, neatly moulded surfaces, precise lines and clean-cut edges. Equally characteristic are the powerful contours, which set the stage for a sensational interplay between light and shade that conveys dynamism and emotiveness. With their 3D design, the crystalline structures of the headlights, tail lights and other features dominate the sophisticated character that is defined by modern technology and a particular degree of refinement. The design is an expression of the timeless elegance and modern functionality that is typical of ŠKODA cars.

ŠKODA's brand-typical design language has continually developed in recent years. The concept studies have introduced the anticipated new details: in 2011 with the ŠKODA VISION D and subsequently the ŠKODA VISION C (2014) and ŠKODA VISION S (2016). This continuous development is also reflected in the latest new models and has now been elevated to a new level with the ŠKODA VISION E.

## Exterior

The front section of the ŠKODA VISION E is characterised by the strikingly shaped bonnet. Below the bonnet, a wide LED lighting strip runs across the vehicle's entire width and flows into slim, triangular headlights at both ends. All lighting units at the front and sides are in white. As with other electrically powered cars, there is no classic radiator grille. Instead, below the wide lighting strip, the bonnet extends to the lower air intakes.

The ŠKODA VISION E's headlights feature Matrix LED technology that ensures comprehensive road illumination which is adapted to the individual driving situation. The highly efficient LED headlights produce a dipped and high beam which is directed precisely and evenly onto the space in front of the car. The lighting control is connected to a front camera to analyse the individual traffic situation. The data that this records allows for precise definition of the light distribution at all times.

Another, slim LED lighting strip runs below the air intakes and extends across the entire vehicle width. Below this sits the front spoiler, completing the front section. The combination of classic ŠKODA design details and new features lends the ŠKODA VISION E an extremely compact, robust and dynamic appearance.

The side view is characterised by the sharp incline of the windscreen, and the roofline, which begins to gently slope towards the rear at an early stage. This design accentuates the coupé-style appearance. There is neither a classic B-pillar nor are there the typical wing mirrors. The rear-hinged rear doors, which are operated electrically, make getting in and out of the car extremely comfortable. The tailgate is also electric. There are no wing mirrors but rather cameras that transfer what is happening around the vehicle onto interior displays. This solution improves the vehicle's aerodynamics and the functions previously associated with the wing mirrors (e.g. recognition of vehicles).

The bold tornado line, which rises towards the rear, runs from the headlights to the tail lights and creates an exciting interplay of light and shade on the body's surfaces. Below the tornado line, a further LED lighting strip runs through the vehicle's front half. It is tapered towards the body's



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centre and therefore underlines the wedge shape, as well as giving the side view additional contour.

The shape of the lower side sills is rugged and bold. On the wings, there are large air vents at the level of the A-pillar. Large wheels and alloy rims in a futuristic design underline the concept car's character. The unmistakably long wheelbase hints at the generously sized interior.

The rear section also combines sculptural design and crystalline shapes. At the bottom end of the large and sharply inclined rear window, the tornado lines seamlessly flow into a flush tailgate spoiler. The triangular tail lights with their multifaceted glass are wider towards the outer edge and extend far into the rear side section. Shining in white, the ŠKODA brand logo sits centrally between the tail lights.

With the ŠKODA VISION E, all of the tail light functions feature advanced LED technology. The LED light sources are particularly energy efficient and produce a high contrast effect. This leads to particularly harmonious and expressive signalling of all relevant lighting functions.

There is a further strongly contoured line below the lighting units which takes up and continues a corresponding line on the side. The strong moulding of the line and the tailgate spoiler create a concave surface area which incorporates the tail lights and the brand logo which shines in white. A further LED lighting strip runs below the rear line and a black apron rounds off the rear section's bottom part. As with all fully electrically powered vehicles, there is neither an exhaust system nor tailpipes.

The distinct horizontal lines and the dynamic wedge shape give the ŠKODA VISION E a particularly sporty appearance, even when stationary. The combination of design elements and classic ŠKODA features makes the VISION E an attractive representative of ŠKODA's evolved design language.

## **Interior**

Thanks to the large glass surfaces, the interior is light and transparent. The concept of horizontal lines is continued consistently and underlines the interior's clear-cut structure and generous amount of space. Four individual, body-contoured seats with new backrests emphasise the modernity of the vehicle.

The seats are slightly raised, thereby providing great visual clarity. In addition, the seats can be rotated by up to 20 degrees. They turn towards the outside when the doors are opened, which makes getting in easier. After closing the door, they return to their initial position – a new 'Simply Clever' feature that provides additional comfort through ergonomically optimised design and mechanics. Due to the concept, there is no need for a transmission tunnel in the front or rear, which creates a generous feeling of spaciousness.

Besides the cockpit screen for the display of conventional vehicle data, there are further displays for the occupants. The central touchscreen sits in the middle of the dashboard, so that the driver and front passenger can operate and read all of the important functions and services.

In addition, there are individual displays for the front and rear passengers to allow for the operation of numerous comfort functions such as information and entertainment. The front



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passenger display is integrated into the dashboard whilst the displays for the rear passengers are in the backrests of the front seats. Furthermore, the front and rear passengers can control their individual entertainment program using their own touch displays. The front passenger's control unit is incorporated into the right armrest; the rear passengers' control unit is located between the two rear seats.

A Phonebox is built into the inside of each door, allowing inductive charging of the occupants' smartphones. The smartphone's personal settings, data and information can be accessed via the individual displays. Ambient lighting is integrated into the doors' decorative strips and below the dashboard. It can be set to one of ten colours and can therefore be adjusted to the individual mood.

As soon as the vehicle drives autonomously, you can slide the front seats back and enjoy guaranteed maximum relaxation. At the same time, the steering wheel is raised, which means the largest possible amount of space and a corresponding degree of comfort.

## **Drive technology**

The ŠKODA VISION E is a fully electrically driven concept car based on the Group's MEB (modular electrification toolkit). Thanks to its power output of 225 kW, the ŠKODA VISION E accelerates instantly and extremely dynamically. The characteristics typical of electric motors include maximum torque available from a standing start. The concept car achieves the highest level of dynamism ever experienced in a ŠKODA. Its top speed is 180 km/h. The powerful lithium-ion batteries and intelligent brake energy recovery enable a range of up to 500 km.

Due to intelligent management, the two electric motors work together with maximum efficiency and permanently drive all four wheels of the ŠKODA VISION E. Front and rear wheels are driven as required to ensure maximum levels of stability, safety and dynamism at all times.

The liquid-cooled lithium-ion battery is particularly powerful and is housed in the crash protection area deep in the chassis floor and located centrally between the front and rear axles. This positioning of the slimline high voltage storage unit also contributes to the favourable weight distribution between the front and rear axle as well as to the ŠKODA VISION E's low centre of gravity.

## **Inductive charging**

Intelligent charging is one of the numerous 'Simply Clever' features. It is done inductively, for example via a floor panel in the owner's garage. Here, the vehicle is brought to a stop with the front axle above the floor panel/pad. This charging pad is connected to the power grid. Overnight, it completely charges the vehicle's batteries automatically using induction technology, i.e. the operation is completely contactless and does not require a charging station or cable reel. Quick charging is also possible – 80 per cent of battery capacity in only 30 minutes.

## **Autonomous driving**

With the VISION E, ŠKODA not only provides an outlook on the fully electric and thereby locally emission-free future of mobility but also on the forms of automated and autonomous driving which can be realised very soon. "The ŠKODA VISION E concept car achieves the requirements for level 3 of autonomous driving. It can operate independently in traffic jams, complete motorway journeys using autopilot, stay in lane or take evasive actions, overtake other vehicles, independently look for



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free parking spaces and drive in and out of parking spaces autonomously,” says Christian Strube, ŠKODA Board Member for Technical Development. The VISION E concept car achieves the requirements for level 3 of autonomous driving. It can operate independently in traffic jams, complete motorway journeys using autopilot, stay in lane or take evasive actions, overtake other vehicles, independently look for free parking spaces and drive in and out of parking spaces autonomously. All of this is aided by various sensors with different ranges and numerous cameras that monitor the traffic situation.

## **Driver assistance systems**

The ŠKODA VISION E is equipped with numerous assistance systems which increase safety and comfort, and are already available for many of the current ŠKODA models today. Furthermore, several additional innovative systems can be found on board the ŠKODA VISION E. These include Traffic Jam Assist, which automatically accelerates or brakes, the autopilot for motorway driving, which steers, accelerates and brakes independently (provided that the motorway fulfils the conditions for autonomous driving), the car park autopilot, which automatically searches for and guides the car to free parking spaces, and the Educated Parking function, which memorises and finds the driver's preferred parking locations.

The Educated Parking system is important particularly in regard to the inductive charging of the high-voltage battery. The system's distinctive feature is its ability to learn. The driver just has to complete a full parking manoeuvre twice in order to gather all of the information required for it to work. Subsequently, the system is able to independently find the exact parking location that is ideal for inductive charging and guide the car to it.

The ŠKODA VISION E features various laser and radar scanners around the vehicle for long, medium and short distances which can detect vehicles or obstacles on the relevant route and in the vehicle's surroundings.

## **Display and operating concept**

The ŠKODA VISION E's display and operating concept comprises new systems that optimise comfort and safety while driving. The innovative digital Human Machine Interface (HMI) system guarantees maximal flexibility when controlling numerous functions in the car. The infotainment, communication and navigation functions can be activated and controlled both with the help of a central control unit on the centre console and via the individual touchscreens.

In addition to this, the ŠKODA VISION E also features gesture control for selected functions. Defined hand movements performed by the driver in the area around the centre console are picked up and identified by a camera. This allows standardised instructions, such as adjusting the audio system's volume or answering phone calls, to be given with simple hand and finger gestures, without the driver having to take their eyes off the road.

Other new features available in the concept car include the Eye Tracking function which constantly monitors the driver's eye movements. The camera-based system is able to always display the information required by the driver at the right time and in a perfectly ergonomic position on one of the screens in the interior. The Eye Tracking function can also be used to analyse how alert the driver is. When the driver's concentration is waning, Driver Alert fatigue detection is activated and prompts the driver to take a break. Another system that optimises safety and that is being



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introduced in the ŠKODA VISION E is the heart rate monitor, which constantly monitors the driver's heart rate and warns them if it is at a dangerous level. Should a medical problem arise, the ŠKODA VISION E can use its automatic driving functions to steer the car onto the hard shoulder without the driver's help and bring the car to a stop. In the event of an emergency (e.g. a heart attack), the system can call the emergency services.

## **Infotainment and ŠKODA Connect**

Comprehensive connectivity between the car, driver and passengers provides an extremely comfortable and safe journey. All of the connectivity features available offer improved access to information, a wide range of entertainment and an even higher level of safety. The ŠKODA VISION E is equipped with the latest infotainment systems. All of the capacitive touchscreens come in a ŠKODA-typical glass design. Thanks to a superfast LTE module and the most cutting-edge navigation system that comes with a built-in Wi-Fi hotspot, which connects all of the occupants' mobile devices, the occupants of the ŠKODA VISION E are 'always online'.

The range of infotainment features is complemented by the ŠKODA mobile online services, which provide navigation, information, entertainment and assistance. Via the ŠKODA Connect portal, the customer can even configure services from their home computer as well as transfer destinations, routes and points of interest to the car.

The Care Connect services support the ŠKODA VISION E's occupants in many situations. The data is transferred via a SIM card that is installed in the vehicle. Numerous online services can be run via the ŠKODA Connect app on a smartphone.

## **Electromobility, ŠKODA style**

ŠKODA will make electromobility a permanent feature of everyday life. To this end, vehicles are being developed with plug-in hybrid drives as well as cars which are purely electrically powered. These will impress with qualities that are typical of the brand. Electromobility plays a crucial role in the company's global growth strategy. In addition to plug-in hybrid vehicles, ŠKODA will also have five fully electric cars in its portfolio by 2025. From that point onwards, one in every four cars sold by ŠKODA worldwide should be a plug-in hybrid or have an entirely electric drive. The fully electric vehicles will cover different segments and thus appeal to a wide range of target groups for ŠKODA's take on purely electric mobility.

ŠKODA is particularly expert at developing vehicles which stand out due to their suitability for daily use, versatility, uncomplicated functionality, adaptability and excellent value for money. These characteristics also play a decisive role in the innovative concepts for the mobility of the future. Electromobility in the typical style of ŠKODA allows for locally emission-free driving with the highest degree of reliability, suitability for daily use and economic efficiency. ŠKODA models with plug-in hybrid as well as purely electric drives will therefore represent an attractive offering for a wide range of customers in the volume segment.

## **Plug-in hybrid model from 2019, five purely electric vehicles by 2025**

Flexibility also defines the short and medium-term development of the ŠKODA model range and its expansion to include vehicles with plug-in hybrid and entirely electric drives. This marks ŠKODA's entry into the age of electrified drive systems. The first model with a combined petrol engine and electric drive will enable locally emission-free driving in an urban environment and also



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outside of it. In subsequent years, further plug-in hybrid models will be launched in other vehicle segments too.

In parallel, ŠKODA is developing its own vehicle concepts for purely electric mobility on the basis of the Group's MEB (modular electrification toolkit). These models will exhibit qualities that are characteristic of ŠKODA. For their development, the flexibility of the MEB is being used to the maximum extent to be able to offer vehicles, even in the context of electromobility, that feature a particularly generous amount of interior space. The range of electric vehicles and their comfortable operation are additional, highly significant driving characteristics relevant to everyday use. The ŠKODA-typical portfolio of 'Simply Clever' features for increased comfort and functionality will be complemented by innovative ideas conceived specifically for electromobility.

The design of the ŠKODA models with purely electric drive systems is defined by the future-oriented development of the brand's current design language. Precise lines and clean-cut edges create strikingly clear structures on the exterior as well as in the interior that reflect the functionality and timeless aesthetics characteristic of the brand. Furthermore, distinctive accents are also created by the use of crystalline elements for numerous exterior and interior design features. With their pronounced three-dimensional design, they emphasise the high-quality and technology-oriented focus of ŠKODA's design language.

## **Future prospects: electromobility, autonomous driving, digitalisation**

At ŠKODA, the development of electric drive systems is closely linked to a variety of other innovations that are of crucial importance to the design of future individual mobility. Electromobility is therefore embedded in the development of fully autonomous vehicles, in the ongoing advance of digitalisation and in the propagation of innovative mobility services.

The development of ŠKODA models with purely electric drive systems is running in parallel to the implementation of further levels of automated driving in production. In the future, the driver will be able to transfer an ever-increasing number of driving responsibilities to their vehicle. The highest degree of precision in the management of acceleration, deceleration and steering, as well as the detailed capture of the vehicle's surroundings using a large number of cameras and sensors, enable additional progress in this area. The electric vehicles developed by ŠKODA based on the MEB (modular electrification toolkit) will have the basic architecture required to integrate these functions, which will be usable in the medium and long term, into their in-car electronics. The rate of progress in the area of digitalisation is similarly rapid. With ŠKODA Connect, customers can already make use of an extensive range of digital services. This technology has also been designed in an especially future-oriented way in conjunction with electromobility. Additional services that are specially aligned to the needs of electromobility will be available for ŠKODA plug-in hybrid and electric vehicles from the very beginning.

Another field of activity in which new perspectives are opening up in parallel to the shift towards electromobility is mobility services. The business areas which will benefit from this development include car sharing, the provision of on-demand mobility and numerous services directly linked to individual mobility requirements. In these areas too, ŠKODA has the potential to precisely identify customer requirements and fulfil them with clear, well-conceived and reliable solutions.



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Long version

## **ŠKODA VISION E: A look into the future – the first electrically powered ŠKODA concept car**

- › First fully electrically driven concept car in ŠKODA's history
- › Two electric motors with a total power output of 225 kW
- › Top speed of up to 180 km/h
- › Range of up to 500 km
- › Autonomous driving possible
- › Modern ŠKODA design language with crystalline design details is continued

Mladá Boleslav / Shanghai, 18 April 2017 – At the 2017 Auto Shanghai exhibition (19-28 April 2017), ŠKODA presents the first purely electrically powered concept car, the ŠKODA VISION E, and provides a look into the company's future. The VISION E is based on the Group's new MEB (modular electrification toolkit) and can also drive completely autonomously. The futuristic design incorporates unmistakable features of the ŠKODA design language. The most eye-catching details are the slim lighting strips in a crystalline look, the pronounced bonnet, the sculptured surfaces and the sacrifice of the B-pillars. The generous amount of space, state-of-the-art assistance systems as well as numerous 'Simply Clever' features are typical of ŠKODA. Thanks to a total power output of 225 kW, which is generated by the two electric motors on the front and rear axles, the ŠKODA VISION E accelerates particularly smoothly and also extremely dynamically up to its top speed of 180 km/h. The powerful lithium-ion batteries and intelligent brake energy recovery enable a range of up to 500 km.

### **Design**

With a length of 4,688 mm, a width of 1,924 mm and a height of 1,591 mm, the ŠKODA VISION E exudes great presence. Due to the long wheelbase – 2.851 mm – and the short front and rear overhangs, the engineers were able to create a very generous and comfortable interior, typical of ŠKODA. The future-oriented car combines an SUV-style raised seating position and a hatchback's generous amount of space with a dynamic silhouette and a gently sloping roofline, in the style of a coupé.

"Over the last few years, with our ŠKODA design language, we have produced several sensational concept cars that point the way to the brand's future," said Karl Neuhold, Head of Exterior Design at ŠKODA. "The new ŠKODA VISION E is now presenting the next step towards a future-oriented design."

The modern ŠKODA design wows with harmonious proportions, neatly moulded surfaces, precise lines and clean-cut edges. Equally characteristic are the powerful contours, which set the stage for a sensational interplay between light and shade that conveys dynamism and emotiveness. With their 3D design, the crystalline structures of the headlights, tail lights and other features dominate the sophisticated character that is defined by modern technology and a particular refinement. The



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design is an expression of the timeless elegance and modern functionality that is typical of ŠKODA cars.

“Czech crystal glass art, which enjoys high international prestige and has a long tradition, is an important source of inspiration for the modern ŠKODA design. It combines classic manufacturing processes with modern aesthetics. The ŠKODA VISION E is therefore also a reference to cultural heritage in the brand's homeland,” said Karl Neuhold, ŠKODA Head of Exterior Design. The ability to produce high-quality, emotive works of art from simple, precise shapes is consistent with the fundamental values of the Czech car brand, whose vehicles harmoniously combine aesthetics and functionality.

ŠKODA's brand-typical design language and its further development have already been implemented in several concept cars: first in 2011 with the ŠKODA VISION D and subsequently with the ŠKODA VISION C (2014) and ŠKODA VISION S (2016). The design language's continuous development is also reflected in the brand's latest new models and has now been elevated to a new level with the ŠKODA VISION E.

## Exterior

The front section of the ŠKODA VISION E is characterised by the striking design of the bonnet, which is sculptured and features edges running towards the centrally placed brand logo that shines in white. Below the bonnet, a wide LED lighting strip runs across the vehicle's entire width and flows at both ends into slim, triangular headlights. All lighting units at the front and sides are in white. As with other electrically powered cars, there is no classic radiator grille. Instead, below the wide lighting strip, the bonnet extends to the lower air intakes.

The ŠKODA VISION E's headlights feature Matrix LED technology that ensures a particular comprehensive road illumination which is always adapted to the individual driving situation. The highly efficient LED headlights produce a dipped and high beam which are not only directed very precisely onto the space in front of the car but also remarkably evenly. Due to innovative control technology, the adaptive light distribution reaches an additional level of quality. The single diodes are controlled together with the lenses and reflectors for targeted illumination of individual road areas whilst other areas are left out. Lighting control is connected to a front camera to analyse the individual traffic situation which includes recognising preceding and oncoming cars in good time. The data that this records allows for precise definition of the light distribution at all times. This again enables optimum use of the headlights' range when driving with high beam whilst eliminating a blinding effect for oncoming road users at the same time.

Another, slim LED lighting strip runs below the air intakes and extends across the entire vehicle width. Below this sits the front spoiler, completing the front section. The combination of classic ŠKODA design details and new features lends the ŠKODA VISION E an extremely compact, robust and dynamic appearance.

The side view is characterised by the sharp incline of the windscreen, and the roofline, which begins to gently slope towards the rear at an early stage. This design accentuates the coupé-style appearance. There is neither a classic B-pillar nor are there the typical wing mirrors. The rear-hinged rear doors, which are operated electrically, make getting in and out of the car extremely comfortable. The tailgate is also electric. There are no wing mirrors but rather cameras that transfer



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what is happening around the vehicle onto interior displays and continuously keep the driver informed. This solution improves the vehicle's aerodynamics and the functions previously associated with the wing mirrors (e.g. recognition of vehicles).

The bold tornado line, which rises towards the rear, runs from the headlights to the tail lights and creates an exciting interplay of light and shade on the body's surfaces. Below the tornado line, a further LED lighting strip runs through the vehicle's front half. It is tapered towards the body's centre and therefore underlines the wedge shape, as well as giving the side view additional contour.

The shape of the lower side sills is rugged and bold. On the wings, there are large air vents at the level of the A-pillar. Large wheels and alloy rims in a futuristic design underline the concept car's character. The unmistakably long wheelbase hints at the generously sized interior.

The rear section also combines sculptural design and crystalline shapes. At the bottom end of the large and sharply inclined rear window, the tornado lines seamlessly flow into a flush tailgate spoiler. The triangular tail lights with their multifaceted glass are wider towards the outer edge and extend far into the rear side section. Shining in white, the ŠKODA brand logo sits centrally between the tail lights.

With the ŠKODA VISION E, all of the tail light functions feature advanced LED technology. The LED light sources are particularly energy efficient and produce a high contrast effect. This leads to particularly harmonious and expressive signalling of all relevant lighting functions such as tail light, brake light and indicator.

There is a further strongly contoured line below the lighting units which takes up and continues a corresponding line on the side. The strong moulding of the line and the tailgate spoiler create a concave surface area which incorporates the tail lights and the brand logo which shines in white. A further LED lighting strip runs below the rear line and a black apron rounds off the rear section's bottom part. As with all fully electrically powered vehicles, there is neither an exhaust system nor tailpipes.

The distinct horizontal lines and the dynamic wedge shape give the ŠKODA VISION E a particularly sporty appearance, even when stationary. The combination of design elements and classic ŠKODA features makes the ŠKODA VISION E an attractive representative of the Czech car manufacturer's evolved design language.

## **Interior**

Thanks to the large glass surfaces, the interior is light and transparent. The concept of horizontal lines is continued consistently and underlines the interior's clear-cut structure and generous amount of space. Four individual, body-contoured seats with new backrests emphasise the car's modernity.

The seats are slightly raised, thereby providing great visual clarity. In addition, the seats can be rotated by up to 20 degrees. They turn towards the outside when the doors are opened which makes getting in easier. After closing the door, they return to their initial position. In doing so, the concept car introduces a new 'Simply Clever' feature which ensures additional comfort through



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ergonomically optimised design and mechanics. Due to the ŠKODA VISION E's concept, there is no need for a transmission tunnel in the front or rear, which creates a generous feeling of spaciousness.

The ŠKODA VISION E features a cockpit screen for the display of conventional vehicle data and there is also a head-up display for the driver and further displays for the passengers. The central touchscreen sits in the middle of the dashboard, so that the driver and front passenger can operate and read all of the important functions and services such as those provided by ŠKODA Connect.

In addition, there are individual displays for the front and rear passengers to allow for the operation of numerous comfort functions such as information and entertainment. The front passenger display is integrated into the dashboard whilst the displays for the rear passengers are in the front seats' backrests. Furthermore, the front and rear passengers can control their individual entertainment program using their own touch displays. The front passenger's control unit is incorporated into the right armrest; the rear passengers' control unit is located between the two rear seats.

A Phonebox is built into the inside of each door, allowing inductive charging of the occupants' smartphones. The smartphone's personal settings, data and information can be accessed via the individual displays. Ambient lighting is integrated into the doors' decorative strips and below the dashboard. It can be set to one of ten colours and can therefore be adjusted to the individual mood.

As soon as the vehicle drives autonomously, you can slide the front seats back and enjoy guaranteed maximum relaxation. At the same time, the steering wheel is raised, which means the largest possible amount of space and a corresponding degree of comfort.

## **Drive technology**

The ŠKODA VISION E is a fully electrically driven concept car based on the Group's MEB (modular electrification toolkit). Thanks to its power output of 225 kW generated by the two electric motors, the ŠKODA VISION E accelerates instantly and extremely dynamically.

"Typical of electric motors, the characteristics include maximum torque available from a standing start, which results in very good responsive qualities. When accelerating, the concept car thereby achieves the highest level of dynamism ever experienced in a ŠKODA," said Christian Strube, ŠKODA Board Member for Technical Development. The ŠKODA VISION E's top speed is electronically limited to 180 km/h. The powerful lithium-ion batteries and intelligent brake energy recovery enable a range of up to 500 km.

Due to intelligent management, the two electric motors work together with maximum efficiency and permanently drive all four wheels of the ŠKODA VISION E. The intelligent all-wheel drive further enriches the purely electric driving experience. Front and rear wheels are driven as required based on the driver's demands and the individual driving situation to ensure maximum levels of stability, safety and dynamism at all times.

The powerful, liquid-cooled lithium-ion battery is housed in the crash protection area deep in the chassis floor and centrally between front and rear axles. This positioning of the slimline high voltage storage unit also contributes to the favourable weight distribution between the front and rear axle as well as to the ŠKODA VISION E's low centre of gravity.



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## **Inductive charging**

Intelligent charging is one of the numerous 'Simply Clever' features. It is done inductively, for example via a floor panel in the owner's garage. Here, the vehicle is brought to a stop with the front axle above a floor panel which is approximately five centimetres high. This charging pad measures approximately 65 x 65 cm and is connected to the grid. Overnight, it completely recharges the vehicle's batteries automatically using induction technology, i.e. the operation is completely contactless and does not require a charging station or cable reel. Quick charging is also possible – 80 per cent of battery capacity in only 30 minutes. Inductive energy transmission is possible with a maximum charging capacity of 11 kW.

The advantages of inductive charging are obvious. Once the relevant infrastructure has been established, electric car owners no longer need to worry about the battery's charging level or the range. Besides the owner's charging pad at home in the car port or garage, adequate facilities could be made available in private or public underground car parks and charge the vehicle's battery for example during office hours, whilst visiting a doctor, watching a game in the stadium or doing the shopping. Thus, batteries could be recharged in several small steps over the course of a day.

## **Autonomous driving**

With the ŠKODA VISION E concept car, the Czech car manufacturer not only provides an outlook on the fully electric and thereby emission-free future of mobility but also on the forms of automated and autonomous driving which can be realised very soon. Additional opportunities to relieve the driver are being created based on the assistance systems that are already available in ŠKODA production models today. The technology presented in the ŠKODA VISION E allows further driving tasks to be delegated to the vehicle.

Autonomous driving is divided into different levels. Level 1 describes assisted driving. Amongst others, the systems at this level include cruise control, which controls the speed and also the distance to the vehicle in front. At this level, the driver must always have their hands on the steering wheel and pay attention to the traffic. Another example are emergency brake assistance features which take over the braking but leave all other vehicle control tasks to the driver. The systems are often limited in their functionality. Some systems are for example only partly operational in adverse weather conditions or only work up to a certain speed.

Level 2 describes semi-autonomous driving. At this level, vehicles can autonomously drive straight on, stay in lane or control the distance to the vehicle ahead autonomously in predefined situations – for example on a motorway. In traffic jams, the vehicle can autonomously take over all of the driving, steering and braking. Here too, adverse weather conditions can lead to restrictions, when dirty sensors hamper the electronics for example.

Level 3 describes highly-autonomous driving. Level 3 vehicles can for example take over steering completely on motorways. Here, the systems control overtaking and evasive manoeuvres, accelerate, and apply the brakes. In dangerous situations, the driver is prompted to take over the steering wheel again within a defined time frame. From level 3, vehicles also communicate automatically with other vehicles and exchange information.

Level 4, fully autonomous driving, is expected to be achieved in a couple of years' time. Most of



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the time, the vehicle will then move autonomously and master even complex situations on country roads and in urban traffic. The driver can occupy themselves with other things during the journey and does not need to have an eye on the surrounding traffic all the time. The vehicle is then also completely connected with its environment. At level 4, urban traffic is also controlled automatically, for example by switching traffic lights to green when a vehicle approaches junctions and no traffic from side roads is detected. The vehicles communicate with each other and notify each other of a change of lanes for example.

From level 5, vehicles are autonomous from the starting point to the final destination. This means: these driverless cars need neither steering wheel nor pedals.

## **ŠKODA VISION E and level 3**

“The ŠKODA VISION E concept car achieves the requirements for level 3 of autonomous driving. It can operate independently in traffic jams, complete motorway journeys using autopilot, stay in lane or take evasive actions, overtake other vehicles, independently look for free parking spaces and drive in and out of parking spaces autonomously,” said Christian Strube, ŠKODA Board Member for Technical Development. All of this is aided by various sensors with different ranges and various cameras that monitor the traffic situation.

Different levels of communication are also installed and tested. The ŠKODA VISION E is – like many ŠKODA production models today – connected to the driver’s smartphone or other mobile devices and communicates with them. However, car-to-car communication and car-to-infrastructure communication are also possible with the ŠKODA VISION E.

## **Driver assistance systems**

The ŠKODA VISION E is equipped with numerous assistance systems which increase safety and comfort and are available for numerous current ŠKODA models. These include:

- › Front Assist including City Emergency Brake function with Predictive Pedestrian Protection, Blind Spot Detect, which warns the driver about vehicles in their blind spot,
- › Rear Traffic Alert, which safeguards when reversing out of parking spaces,
- › Adaptive Cruise Control, which maintains the desired distance from the vehicle in front,
- › Lane Assist, which prevents the car from unintentionally deviating from its lane,
- › the fatigue detection system Driver Alert, which detects signs that the driver is becoming tired and prompts them to take a break,
- › Travel Assist with Traffic Sign Recognition,
- › Park Assist, which can automatically steer the car into parking spaces and can even take over manoeuvring out of parking spaces.

Furthermore, several additional innovative systems can be found on board the ŠKODA VISION E. These include:

- › Traffic Jam Assist, which automatically accelerates or brakes,
- › the autopilot for motorway driving, which steers, accelerates and brakes independently (provided that the motorway fulfils the conditions for autonomous driving),
- › the car park autopilot, which automatically searches for and guides the car to free parking spaces,
- › the Educated Parking function, which memorises and finds the driver’s preferred parking



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locations.

The Educated Parking system is important particularly in regard to the inductive charging of the high-voltage battery. The system's distinctive feature is its ability to learn. The driver just has to complete a full parking manoeuvre twice in order to gather all of the information required for it to work. Subsequently, the system is able to independently find the exact parking location that is ideal for inductive charging and guide the car to it.

The VISION E features various laser and radar scanners around the vehicle. Long-distance laser scanners for monitoring the environment in autonomous driving operation, radar sensors for detecting vehicles and obstacles at mid-range distances as well as radar scanners for shorter distances. All of the sensors and scanners work together with the different assistance systems. The data is processed by an analysis and control unit with an extremely large amount of processing power.

## **Display and operating concept**

The ŠKODA VISION E's display and operating concept comprises new systems that optimise comfort and safety while driving. The innovative digital Human Machine Interface (HMI) system guarantees maximal flexibility when controlling numerous functions in the car. The infotainment, communication and navigation functions can be activated and controlled both with the help of a central button on the centre console and via the individual touchscreens.

In addition to this, the ŠKODA VISION E also features gesture control for selected functions. Defined hand movements performed by the driver in the area around the centre console are picked up and identified by a camera. This allows standardised instructions, such as adjusting the audio system's volume or answering phone calls, to be given with simple hand and finger gestures, without the driver having to take their eyes off the road.

Furthermore, the concept car is equipped with a particularly advanced version of voice control. When selecting navigation destinations or infotainment programs for example, the driver can give instructions not only using predefined terms, but also by formulating them in full sentences. The system understands the context of these and implements them.

Other new features available in the concept car include the Eye Tracking function which constantly monitors the driver's eye movements. Using this, the camera-based system is able to always display the information required by the driver at the right time and in a perfectly ergonomic position on one of the screens in the interior. For example, if the driver turns to the central in-car monitor to select their desired entertainment program, driving-related information and possible warning messages are also briefly displayed there. This enables the driver to see all the important information, which is normally shown on the head-up display, in front of them – even when they intermittently take their eyes off the road.

The Eye Tracking function can also be used to analyse how alert the driver is. When the driver's concentration is waning, the Driver Fatigue Monitor is activated and prompts the driver to take a break. Another system that optimises safety and that is being introduced in the ŠKODA VISION E is the heart rate monitor, which constantly monitors the driver's heart rate and warns them if it is at a dangerous level. Should a medical problem arise, the VISION E can use its automatic driving



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functions to steer the car onto the hard shoulder without the driver's help and bring the car to a stop. In the event of an emergency (e.g. a heart attack), the system can call the emergency services.

## **Infotainment and ŠKODA Connect**

Comprehensive connectivity between the car, driver and passengers provides an extremely comfortable and safe journey. All of the connectivity features available offer improved access to information, a wide range of entertainment and an even higher level of safety. Via the car network, all ŠKODA VISION E passengers can send data such as route suggestions or playlists to the driver and communicate with each other as they like.

The range of new connectivity features available extends to topics such as individual car preconditioning. Playlists, auxiliary heating and navigation destinations, for instance, can be programmed prior to the journey and the electric range can also be checked. A digital key on a smartphone, smartwatch or tablet can be used to open the car. The route planner can also suggest routes based on the driver's preferences. Information about the weather and traffic are also customised.

The ŠKODA VISION E is equipped with the latest infotainment systems. All of the capacitive touchscreens come in a ŠKODA-typical glass design. Thanks to a superfast LTE module and the most cutting-edge navigation systems that come with a built-in Wi-Fi hotspot, which connects all of the occupants' mobile devices, the occupants of the ŠKODA VISION E are 'always online'.

The range of infotainment features is complemented by the ŠKODA mobile online services, which provide navigation, information, entertainment and assistance. Via the ŠKODA Connect portal, the customer can even configure services from their home computer as well as transfer destinations, routes and points of interest to the car.

Online Traffic Information transfers traffic flow on the selected route to the car in real time and suggests alternative routes in the event of a traffic jam. The services also provide tailored information on parking spaces, news and the weather.

Navigation in the ŠKODA VISION E uses photo-realistic map views, street views can be seen in the form of 360-degree panoramic images. Destinations are requested by text entry or voice control. If the driver is planning the route in advance from home, the ŠKODA Connect app informs them of the best time to set off.

The Care Connect services support the VISION E's occupants in many situations. The data is transferred via a SIM card that is installed in the vehicle. If the restraint systems have been activated following an accident, the Emergency Call establishes a voice and data connection to a dedicated emergency call centre and transfers all of the relevant information. The Emergency Call can also be operated manually.

Using the Breakdown Call function, the driver can have technical questions answered or request assistance in the event of a breakdown. With the help of the Proactive Services feature, service appointments can be arranged with a dealership and vehicle-related data can be passed on to the garage.



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Numerous online services can be run via the ŠKODA Connect app on a smartphone and allow the status of the car, e.g. whether it is locked and whether the lights are on, to be checked remotely. The current range of the ŠKODA VISION E can also be accessed when away from the vehicle.



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## Facts and figures

**The first fully electric concept car in the history of ŠKODA, which spans over 120 years**

**Developed based on the Group's MEB (modular electrification toolkit)**

- › Two electric motors with a total power output of 225 kW
- › All-wheel drive
- › Range up to 500 km
- › Top speed of 180 km/h
- › Inductive charging with maximum charging capacity of 11 kW
- › Quick charging: 80% of the battery capacity in 30 minutes

**New driver assistance systems**

- › Traffic Jam Assist
- › Autopilot for motorway driving
- › Car park autopilot
- › Educated Parking

**Display and operating concept:**

- › Digital HMI
- › Gesture control
- › Voice control
- › Eye Tracking
- › Driver Alert fatigue detection
- › Heart rate monitor

**Dimensions:**

- › Length 4,688 mm
- › Width 1,924 mm
- › Height 1,591 mm
- › Wheelbase 2.851 mm



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## **Electromobility, ŠKODA style: Reliable, suitable for daily use, efficient and emotive**

- › Outlook: in 2025, one in every four newly registered ŠKODA cars will be plug-in hybrids or have a purely electric drive system
- › ŠKODA is developing five electrically driven production models with brand-typical qualities
- › Emission-free driving becomes 'Simply Clever': long range, easy charging, lots of space in the interior, a high level of functionality and excellent value for money
- › Electromobility as a central element of ŠKODA's global growth strategy

Mladá Boleslav / Shanghai, 19 April 2017 – The automotive industry finds itself in the middle of a major process of change. The traditional vehicle business will continue to grow, albeit at a slower rate than so far. On the other hand, new business segments are opening up for which ŠKODA has products and solutions ready or is developing them further. The following areas will become significantly more important: connectivity, alternative drive systems, purely electric drive systems, car sharing, on-demand mobility and highly automated and autonomous driving. In all of these areas, ŠKODA is rising to the challenge of making the mobility of the future a permanent feature of everyday life. Thus, ŠKODA is developing vehicles with plug-in hybrid and entirely electric drive systems which impress during locally emission-free driving with brand-typical qualities. With a long range, easy-to-use charging technology and outstanding economic efficiency, electromobility becomes 'Simply Clever'. In addition, the sustainable drive concept is combined with a distinct and emotive design as well as with the generous interior space that will continue to be typical of ŠKODA in the future. Electromobility plays a crucial role in the company's global growth strategy. In addition to plug-in hybrid vehicles, ŠKODA will also have five fully electrically powered cars in its range by 2025. From that point onwards, one in every four cars sold by the brand worldwide should be a plug-in hybrid or have a purely electric drive system.

In terms of connectivity, ŠKODA is already setting the standard with its production vehicles now. Thanks to ŠKODA Connect and with the Wi-Fi hotspot and LTE module, the occupants on board are 'always online' and are connected to the entire world at lightning speed. In emergencies, the system automatically calls for help, while navigation routes are updated in the event of a traffic jam. Occupants of a ŠKODA can connect their mobile devices to the vehicle's infotainment system and charge their smartphones inductively. Furthermore, drivers can access their vehicle remotely or be guided to their ŠKODA via an app on their smartphone.

The individual mobility of the future will be shaped by sustainable drive concepts which make a significant contribution to reducing fuel consumption and emissions in road traffic. The electrification of drives for cars is crucially important in this regard. Plug-in hybrid models and fully electrically driven vehicles open up the possibility of consistently reducing average consumption and emission values. ŠKODA has therefore identified electromobility as another central element in addition to automated driving, digitalisation and the development of innovative mobility services, which will define the global change within the automotive industry in the course of the coming decade.



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A decisive factor in the success of electromobility is offering the customer an attractive range of models which meets their individual mobility needs as well as high demands in terms of sustainability. The Czech car manufacturer ŠKODA is particularly expert at developing vehicles which stand out due to their suitability for daily use, versatility, uncomplicated functionality and excellent value for money. These characteristics also play a decisive role in the innovative concepts for the mobility of the future. Electromobility in the typical style of ŠKODA allows for locally emission-free driving with the highest degree of reliability, suitability for daily use and economic efficiency. ŠKODA cars with plug-in hybrid as well as entirely electric drives will therefore represent an attractive offering for a wide range of customers in the volume segment.

## **ŠKODA seizes the opportunity to allay fears regarding electromobility**

Until now, the suitability of purely electric vehicles for daily use and the electrically powered driving experience have been restricted by the vehicles' limited range. With major technological progress in the area of battery technology, it will be possible to significantly increase the capacity of the high-voltage batteries for future electrified models from ŠKODA. A reduction in charging times also contributes to increased suitability for daily use and long distances. Here, ŠKODA is focusing on battery chargers which can be operated with a particularly high power output. These will make it possible to use even short stops on route to replenish energy reserves.

## **Task for society as a whole: expansion of the charging infrastructure**

An important requirement for increasing the appeal of electromobility is the provision of as dense a network of public charging stations as possible. ŠKODA is developing electric vehicles whose high-voltage batteries can be charged using conventional household plug sockets as well as at public charging stations. Establishing these stations is a task for society as a whole and is to be mastered with combined efforts from the operators of public infrastructure, energy providers and car manufacturers.

From a technological viewpoint, the creation of fast charging stations in particular contributes to optimising the suitability of electromobility for daily use and for long-distance travel. Wherever one of these charging stations with increased charging capacity is available, the driver of an electric car with a purely electric drive system can trust that a long coffee break will be enough to replenish the energy supply in their vehicle. The availability of fast charging stations is therefore vital along dual carriageways and important links for long-distance transport.

## **Joint venture for high-power charging stations on Europe's main arterial roads**

Together with the BMW Group, Daimler AG and the Ford Motor Company, Volkswagen Group is involved in a joint venture for the construction of an ultra-fast, high-capacity charging network on important transport links in Europe. The aim of the initiative is the establishment of high-power DC charging stations. These direct current stations are to provide a charging capacity of up to 350 kW. This could reduce the time required to charge a high-voltage battery even further in comparison to current fast charging stations. In the first stage, the creation of around 400 fast charging stations is planned over the course of 2017. By 2020, the number of high-capacity charging stations available should grow to several thousand.

Cooperative efforts are also needed in numerous other fields in order to accomplish the change to locally emission-free mobility. Fundamental research, technological development, statutory regulation and innovative services are areas in which, besides governmental institutions and car



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manufacturers, other stakeholders are also facing new challenges. Examples of this include implementing technical standards for charger connections, adapting the energy infrastructure to the growing demand for electricity and the increasing number of charging points, creating a customer-friendly invoicing and payment system for the use of public charging stations, developing job profiles in the automotive industry with regards to electromobility further as well as initiating combined research projects between universities, car manufacturers and partner companies.

## **The foundation for ŠKODA style electromobility: the MEB (modular electrification toolkit)**

For the development of a multifaceted and future-oriented range of electrically powered models, ŠKODA is drawing on Volkswagen Group's MEB (modular electrification toolkit). It provides the indispensable foundation for the large-scale production of electric vehicles. The multi-brand development strategy allows for the creation of a vehicle architecture that is consistent and uncompromisingly aligned to the needs of electromobility. Right from the start the arrangement of the drive system, the chassis technology, the high-voltage battery and the power electronics – as part of the MEB (modular electrification toolkit) – was designed in such a way that the ideal weight distribution, optimum driving characteristics, a wide amount of scope for model-specific design and a high level of functionality can be achieved independently from a specific vehicle concept. Furthermore, when developing the MEB (modular electrification toolkit), production-related requirements were also taken into account. Thus, it will be possible to completely integrate the production of future ŠKODA models with electrified drive systems into the production process for conventional vehicles.

The standardised vehicle architecture positions the wheels as wide as possible, which results in a long wheelbase and a wide track. The safe and yet sporty driving characteristics also benefit from the battery's position deep within the chassis floor and centrally between the axles. The high-voltage battery is made in the shape of a slim line board, in which the battery modules are arranged in rows of two. The position of the battery not only facilitates a low centre of gravity for the vehicle, but also has a positive impact on the design of the interior. A transmission tunnel is no longer required, which leads to optimised versatility for the use of the interior. For example, the instrument panel can be smaller than usual and there are also new possibilities for the design of the centre console.

## **Flexible concept: electric driving also with intelligent all-wheel drive**

The low-voltage battery for the in-car network is located in the front section of the MEB (modular electrification toolkit) and, just as in conventional vehicles, provides power for the lighting units and other consumers. The electric motor is positioned above the rear axle it is driving. Thanks to the compact construction and the low weight of electric motors, an additional drive unit can be housed in the front section of the vehicle. This transfers its power to the front wheels. The result of this configuration is an intelligent all-wheel-drive system that can transfer the necessary amount of power to the front and rear wheels depending on the driver's demands and the driving conditions.

The modular system allows for particularly efficient and cost-effective development of electric vehicles for a range of segments. Besides arrangement, the uniform standards set by the MEB (modular electrification toolkit) also affect the design for the drive and chassis components. Here, the MEB (modular electrification toolkit) allows for model-specific scaling of individual components. Electric motors are developed based on a consistent design principle, but can be produced with different power outputs to meet model-specific requirements. Following a similar pattern, the size



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and capacity of the high-voltage battery can also be adapted to cater to different space and model-specific requirements.

## **Plug-in hybrid model from 2019, five electric vehicles by 2025**

Flexibility also defines the short and medium-term development of the ŠKODA model range and its expansion to include vehicles with plug-in hybrid and purely electric drive systems. The launch of the ŠKODA SUPERB with plug-in hybrid drive is scheduled for as early as 2019. This marks the Czech brand's entry into the age of electrified drive systems. The first model with a combined petrol engine and electric drive will enable locally emission-free driving in an urban environment and also outside of it. In subsequent years, further ŠKODA plug-in hybrid models will be launched in other vehicle segments too.

In parallel, ŠKODA is developing its own vehicle concepts for entirely electric mobility based on the modular electric car platform. These models will come with qualities that are typical of ŠKODA. For their development, the flexibility of the MEB (modular electrification toolkit) is being used to the maximum extent to be able to offer vehicles that feature a particularly generous amount of interior space – even in the context of electromobility. The range of electric vehicles and their comfortable operation are additional, highly significant driving characteristics relevant to everyday use. The ŠKODA-typical portfolio of 'Simply Clever' features for increased comfort and functionality will be complemented by innovative ideas conceived specifically for electromobility.

"The design of the ŠKODA models with purely electric drive systems is defined by the future-oriented development of the brand's current design language. Precise lines and clean-cut edges create strikingly clear structures on the exterior as well as in the interior that reflect the functionality and timeless aesthetics characteristic of the brand," said Karl Neuhold, ŠKODA Head of Exterior Design. Furthermore, distinctive accents are also created by the use of crystalline elements for numerous exterior and interior design features. With their pronounced three-dimensional design, they emphasise the high-quality and technology-oriented focus of ŠKODA's design language.

The further development of the model line-up envisages the gradual launch of five purely electric ŠKODA models by 2025. These vehicles will cover different segments and thus reach out to a wide range of target groups for ŠKODA's unique take on entirely electric mobility.

## **Future prospects: electromobility, autonomous driving, digitalisation**

At ŠKODA, the development of electric drive systems is closely linked to a variety of other innovations that are of crucial importance to the design of future individual mobility. Electromobility is therefore embedded in the development of fully autonomous vehicles, in the ongoing advance of digitalisation and in the propagation of innovative mobility services.

The development of ŠKODA vehicles with purely electric drives is running in parallel to the implementation of further levels of automated driving in production. In the future, the driver will be able to transfer an ever-increasing number of driving responsibilities to their vehicle. The highest degree of precision in the management of acceleration, deceleration and steering, as well as the detailed capture of the vehicle's surroundings using a large number of cameras and sensors, enable additional progress in this area. The electric vehicles developed by ŠKODA based on the MEB (modular electrification toolkit) will have the basic architecture required to integrate these functions, which will be usable in the medium and long term, into their in-car electronics.



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The fully electrically driven VISION E demonstrates that ŠKODA is already well on the way to autonomous driving. The VISION E operates at level 3 which enables automated driving without the driver steering or braking. The VISION E would only require the help of the driver in particularly critical situations. The concept car also features additional practical benefits. For example, the batteries can be charged inductively, that is to say, wirelessly.

With increasing automation, it is not only the way we drive that changes. Much more is changing – for example, vehicle design. The interior design changes due to the range of new activities open to the driver. The infrastructure is changing, which will then make it possible to control the flow of traffic more in line with demand and thereby improve traffic flow considerably. There will also be completely new insurance models.

In 2030, as much as 15 per cent of new cars could drive completely autonomously. However, a lot depends on the regulatory conditions.



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## Quotes

### ŠKODA VISION E

“Over the last few years, with our ŠKODA design language, we have produced several sensational concept cars that point the way to the brand's future. The new ŠKODA VISION E is now presenting the next step towards a future-oriented design.”

*Karl Neuhold, ŠKODA Head of Exterior Design*

“Czech crystal glass art, which enjoys high international prestige and has a long tradition, is an important source of inspiration for the modern ŠKODA design. It combines classic manufacturing processes with modern aesthetics. The ŠKODA VISION E is therefore also a reference to cultural heritage in the brand's homeland.”

*Karl Neuhold, ŠKODA Head of Exterior Design*

“Typical of electric motors, the characteristics include maximum torque available from a standing start, which results in very good responsive qualities. When accelerating, the concept car thereby achieves the highest level of dynamism ever experienced in a ŠKODA.”

*Christian Strube, ŠKODA Board Member for Technical Development*

“The ŠKODA VISION E concept car achieves the requirements for level 3 of autonomous driving. It can operate independently in traffic jams, complete motorway journeys using autopilot, stay in lane or take evasive actions, overtake other vehicles, independently look for free parking spaces and drive in and out of parking spaces autonomously.”

*Christian Strube, ŠKODA Board Member for Technical Development*



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## ŠKODA e-mobility

"The design of the ŠKODA models with purely electric drive systems is defined by the future-oriented development of the brand's current design language. Precise lines and clean-cut edges create strikingly clear structures on the exterior as well as in the interior that reflect the functionality and timeless aesthetics characteristic of the brand."

*Karl Neuhold, ŠKODA Head of Exterior Design*

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### ŠKODA AUTO

- › is one of the longest-established car manufacturers in the world. The company was founded in 1895 – during the pioneering days of the automobile. Today, the company's headquarters remain in Mladá Boleslav.
- › currently offers the following model series: CITIGO, FABIA, RAPID, OCTAVIA, YETI, KODIAQ and SUPERB.
- › delivered more than 1 million vehicles to customers worldwide in 2016.
- › has been part of Volkswagen Group since 1991, one of the most successful vehicle manufacturers in the world. ŠKODA, in association with the Group, independently manufactures and develops vehicles as well as components such as engines and gear transmissions.
- › operates at three locations in the Czech Republic; produces in China, Russia, Slovakia and India mainly through Group partnerships, as well as in Ukraine and Kazakhstan with local partners.
- › employs over 30,000 people globally and is active in more than 100 markets.