



# ELECTRICITY MIX

How are the latest electric cars doing in terms of connectivity, ease of use and charging planning? We take a close look at seven vehicles popular in Germany as well as three Chinese ones.



For electromobility to really work, reliable charging networks are one prerequisite (also see connect 11/22). The other is the electric vehicles themselves. If their drivers are supposed to arrive relaxed at their destination, this requires a certain amount of intelligence in the car: infotainment, navigation, assistance systems and app should be intuitive to operate and should offer all important functions. Moreover, reliable charging planning is particularly important

for electric cars: When and where will it be necessary to make a charging stop on the route? What charging power can the driver expect at the planned charging station - and how busy is it at the moment?

### Significant differences

In order to test how well the vehicles answer these questions and fulfil these requirements, we have adapted our test catalogue to include the practical use of electric cars. In addition, we have decided to

only evaluate pure electric cars from now on. That is why this time the several members of our test team took closely examined seven e-cars which are currently popular in Germany and then also took a look at three candidates from China as a sort of freestyle. You can read the results on the following pages. But one thing already in advance: There were big differences in the criteria mentioned - anyone interested in an e-car should know them.

Hannes Rügheimer



Tour guide: The myAudi app helps planning charging stops even before the start of a journey.

## Audi e-tron GT

The Audi e-tron GT is tested in its ultimate sports version RS – making it the most expensive vehicle in this comparison and competing with its corporate relative, the Porsche Taycan Turbo. However, its infotainment and navigation equipment is also available identically in the somewhat lower-priced variants of this model.

As has been customary at Audi for some time now, touch-screen operation extends to the air conditioning – and not everything offers the haptic feedback that makes a lot of sense while driving. However, the variety of functions can also be tamed with the multifunction steering wheel and via voice control.

A smartphone can be connected wirelessly or via USB-C for Carplay or Android Auto and charged on an inductive charging cradle while driving. Connectivity for the entire system is provided either by the paired mobile phone or by the LTE modem with an eSIM installed in the vehicle at the factory. For the latter,

you have to subscribe to data packages, each of which is valid for one year.

### Wide range of functions, overall good handling

We did not miss anything essential in terms of entertainment functions, but in the productivity and communication category we would have liked to see support for receiving and sending e-mails as well as calendar integration. The Audi also does not offer an Internet browser. Its voice control can be switched between a classic (onboard) version and an AI-based version – the latter requires an internet connection. In the

practical test, however, even the online version did not understand a relatively large number of test commands. In contrast, the navigation including e-charge planning was very convincing – the system made sensible suggestions for charging stops and also reliably displayed the current capacity utilisation of the selected charging stations.

The “myAudi“ app also offers all the essential functions and does its job well. Even route planning can be prepared with its help – however, the app only guides its user to the car (“First Mile Navigation“), but not from its parking position to the final destination (“Last Mile“).

There are plenty of assistance systems and they are also easy to operate after a short familiarisation period – in road work areas, however, the lane departure warning system quickly reached its limits. In addition, automatic parking did not work without restrictions in the test – but all these are definitely complaints at a high level.

**AUDI RS E-TRON GT QUATTRO**

Nominal performance:	440 kW (598 hp)
max. torque:	830 Nm
Maximum speed:	250 km/h
Acceleration 0-100 km/h:	3,3 s
Battery capacity (net):	83,7 kWh
max. charging power:	11 kW AC/270 kW DC
Range (WLTP):	max. 475 km
Test car price:	164 605 Euros

**connect** verdict: good (764 Points)

# BMW i4

► The BMW i4 is the electric counterpart to the Bavarian 4 Series – which in turn is the coupé variant of the popular BMW 3 Series. The rear-wheel drive 250 kW electric car does justice to the brand’s sporty image. The control elements and concepts are also very similar to the solutions familiar from the manufacturer’s range of combustion engines. This applies to the “curved widescreen” with speedometer (13.3 inches) and fingertip-controlled multimedia display (14.9 inches) as well as to the iDrive controller, which has fortunately been retained, and the additional operation via steering wheel buttons or the AI-based online voice recognition. The latter, however, is only available if the car has an internet connection.

Smartphones can be connected wirelessly via Carplay or Android Auto and can be charged while driving in an inductive charging cradle located under a cover in the

centre console. The entire system can be connected to the internet either via the paired smartphone or the 5G-capable mobile modem with an eSIM and data packages booked for it. The latter are valid for three years after purchase.

### Sheer Electric Driving Pleasure

Entertainment while driving is provided by music streaming from the smartphone via Bluetooth or USB, listening to audio files from USB media as well as FM, DAB, internet radio or Spotify. Text messages can be read and sent, but not e-mails. The i4 also does not have an internet browser. The navigation,

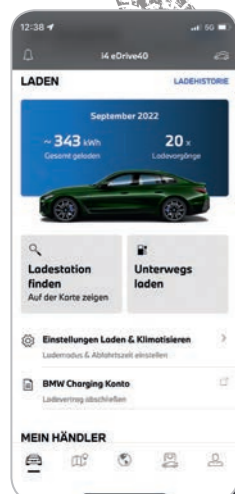
which is based on proven BMW tradition, has been usefully supplemented with a convenient e-charging support. However, the system could not display parking spaces on the streets along the planned route. The “MyBMW” app leaves little to be desired – we only missed the ability to share the current location. The joy of motoring – and resting – often emphasised by the brand is ensured, among other things, by climate pre-conditioning, a three-dimensional remote display of the vehicle’s location and live information on ongoing charging processes. Private car sharing with digital key handover is also supported.

In the assistance systems category, the BMW i4 offers everything our test catalogue demands, and the function and operation of these auxiliary functions is also convincing across the board. Overall, the i4 successfully transfers classic BMW virtues into the electric world.

### BMW i4 eDRIVE40

Nominal performance:	250 kW (340 hp)
max. torque:	430 Nm
Maximum speed:	190 km/h
Acceleration 0-100 km/h:	5,7 s
Battery capacity (net):	80,7 kWh
max. charging power:	11 kW AC/205 kW DC
Range (WLTP):	max. 590 km
Test car price:	78 790 Euros

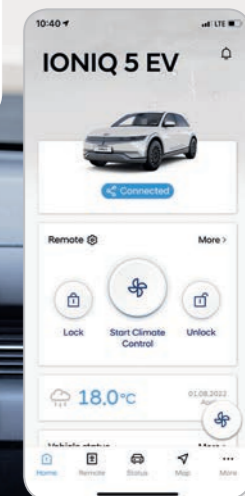
connect verdict: good (815 Points)



Electric Rider: The “My BMW” app offers everything important and also integrates e-mobility functions sensibly.



Illustration: Milojeshutterstock.com



Keep it simple: The “BlueLink” app is easy to use, but only supports basic functions.

# Hyundai Ioniq 5

► “Ioniq” is Korean car manufacturer Hyundai’s sub-brand for electric cars, and model number five in its range is a sporty SUV. The driving performance of the all-wheel drive Ioniq 5 also fits this claim – while the price can still be considered relatively moderate in the competitive environment.

Hyundai places two 12.25 inch displays in the cockpit: one for the speedometer and co., the second for all functions related to vehicle settings and infotainment. Apple Carplay or Android Auto link to the driver’s smartphone wirelessly, while the phone itself can be charged inductively.

The factory-installed LTE modem with an eSIM, however, is reserved for basic vehicle functions, including live traffic information and app communication – infotainment content, on the other hand, is always transferred via the smartphone’s online connection.

FM, DAB and web radio are available, and music can also be

played from the smartphone via Bluetooth. USB playback did not work for us in the test. Messaging is limited to SMS support. The Korean car’s on-board system does not have an internet browser, third-party apps or streaming services. Its voice recognition works with classic onboard recognition, and thus the supported range of functions is a little limited.

### Need for improvement in details

The integration of electric mobility into the navigation system is also rather rudimentary. For example, charging stations are not automatically suggested if the range is not sufficient, but have to be added

manually. The search for parking spaces at the destination could also be a little more convenient and should be able to find parking spaces outside multi-storey car parks.

Similar impressions continue with Hyundai’s “BlueLink” app: it essentially concentrates on basic functions such as status information and at least climate settings. However, we missed first- and last-mile navigation or route planning suitable for electric cars in the app test.

In addition, the trips from the logbook function, which is supported in principle, could not be exported in the test.

Hyundai, on the other hand, has done a good job with the assistance systems of the Ioniq 5 – their scope of functions is complete, they mostly performed without any problems during the test drives, and their operation was not a mystery.

### HYUNDAI IONIQ 5 ALLRAD

Nominal performance:	239 kW (325 hp)
max. torque:	605 Nm
Maximum speed:	185 km/h
Acceleration 0-100 km/h:	5,1 s
Battery capacity (net):	77,4 kWh
max. charging power:	11 kW AC/240 kW DC
Range (WLTP):	max. 507 km
Test car price:	61 900 Euros

connect verdict: satisfactory (721 Points)

# Mercedes EQE

► The fact that the EQE is the smaller brother of the electric Mercedes top model EQS is immediately apparent – its ambitious price, on the other hand, only at second glance. But can its infotainment and charging comfort live up to the luxury claim proclaimed by its manufacturer? The answer is clearly yes. The Mercedes EQE fulfils all our test criteria so convincingly that it easily takes the lead in this comparison, earning a “very good” rating for the first time in our car tests.

The cockpit of the test vehicle is dominated by the iconic “hyper-screen”: The speedometer, central and passenger screens are mounted under a common glass cover that makes them look like one continuous ultra-wide display. The current generation of the “Mercedes-Benz User Experience” MBUX offers a great deal of operating convenience. The driver’s smartphone can be placed in an inductive charging cradle and, if desired, its func-

tions can be made available wirelessly in the MBUX via Apple Carplay or Android Auto. Infotainment, navigation and app support leave little to be desired - and the e-charge planning for longer distances currently sets the benchmark for functionality and reliability.

### Many functions, easy to operate

Entertainment is also well provided for – whether it is coming from FM, web or digital radio, from the smartphone, from a USB stick or from one of the many integrated music streaming services. Data connections are provided either by the eSIM-activated LTE modem on

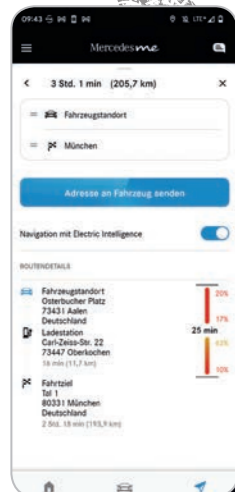
board or by the driver’s smartphone. Tech-savvy co-passengers can play around on their own display. Drivers and passengers can also easily navigate the wealth of functions with the voice control system, which responds to the wake-up word “Hey, Mercedes”.

And what about the operating concept and user experience? In this discipline, the electric Mercedes is also convincing. AdCenterdly, the testers found minor potential for improvement, for example in the search for parking spaces along public roads or the activation of individual assistance systems. But overall, the MBUX control system ranks far ahead in this comparison. Operation via touchscreen, sensor pad or steering wheel buttons is easy after a short familiarisation period. And in addition to the navigation maps, software updates can also be installed “over the air”. And the driver assistance systems of the EQE belong to the top class as well.

### MERCEDES EQE 500 4MATIC

Nominal performance:	300 kW (408 hp)
max. torque:	858 Nm
Maximum speed:	210 km/h
Acceleration 0-100 km/h:	4,7 s
Battery capacity (net):	90,6 kWh
max. charging power:	11 kW AC/170 kW DC
Range (WLTP):	max. 596 km
Test car price:	134 434 Euros

connect verdict: very good (850 Points)



Well planned means almost charged: The convincing Mercedes Me app also assists with charge planning.



Fokussiert: Die Polestar-App ist eher schlicht – das Konzept setzt auf weitere Google-Apps wie Google Maps.

# Polestar 2

► In the product range of the e-car subsidiary of Volvo and Geely, the Polestar 2 in the considered “Long Range Dual Motor” version is the top variant. In terms of infotainment, its special feature is that the vehicle relies entirely on Google’s “Android Automotive” car operating software. Accordingly, the 11.2 inch central display plays the main role, even if it is complemented by steering wheel buttons and voice control via Google Assistant. The latter, however, would benefit from somewhat deeper access to the vehicle’s systems. Naturally, the Polestar 2 gets along perfectly with Android smartphones and the huge variety of Google services. But Apple’s Carplay is now also supported via USB or wirelessly.

The on-board Android system, however, lacks functions such as address book and calendar as well as messaging via SMS or e-mail – for this you have to switch to the respective smartphone interfaces. An internet browser and access to the

Google Play Store are available. The latter then allows the installation of automotive-relevant third-party apps. The required internet connection is provided by a built-in LTE/5G modem with an eSIM or, optionally, by the connectivity of the paired smartphone that can be recharged in an inductive charging cradle.

### Well suited for Google fans

The entertainment offerings are extensive and can be expanded with additional apps for streaming services, for example. FM radio reception, however, is apparently too “old school” for the provider. For navigation, the Polestar offers a choice of two apps, both of which can run on

the central screen: Google Maps with its reliable traffic information, and “A Better Route Planner” (ABRP) for charging stops, which is rightly popular among electric drivers. The decision between the two depends on the current need – but it would be nicer to have both functionalities combined. The Polestar app offers everything important, but in comparison to other brands, some functions are missing.

However, for features such as address and POI transfer or first/last mile navigation, the driver should use Google Maps on the smartphone anyway – which is then also connected to its counterpart in the car.

In terms of driver assistance, we missed a high-beam assistant, and also Polestar does not yet offer automatic parking or a head-up display. But all in all, convinced Google users should quickly get used to the Polestar’s operating concept.

### POLESTAR 2 (LONG RANGE DUAL MOTOR)

Nominal performance:	300 kW (408 hp)
max. torque:	680 Nm
Maximum speed:	205 km/h
Acceleration 0-100 km/h:	4,4 s
Battery capacity (net):	78 kWh
max. charging power:	11 kW AC/155 kW DC
Range (WLTP):	max. 487 km
Test car price:	62 400 Euros

connect verdict: good (754 Points)

# Tesla Model Y

► Already in the somewhat flatter and smaller Model 3, Tesla made the questionable decision to omit a separate driver's display. It takes some getting used to, to say the least, that even important information such as the current speed is only visible on the central screen. The fact that even settings such as the windscreen wiper speed are located there does not exactly increase driving safety. A head-up display, which could at least replace the speedometer, is also not offered.

Apart from a few steering wheel buttons, there are no other controls besides the large touch display. The voice assistant takes some getting used to, but works well overall. True Tesla fans will not be bothered by all of this. Perhaps more disturbing is the fact that Tesla is apparently so convinced of its own infotainment software that a smartphone connection via Android Auto or Carplay is not even supported. Since the vehicle's internet connection is also

established exclusively via its own LTE modem with an eSIM, the driver's smartphone plays only a secondary role on the grand tour. At least it can play music via Bluetooth if desired and can be charged inductively on the road. A Wi-Fi hotspot, which in turn would supply other devices with internet, is also not to be found.

### Handling could be improved

However, Tesla's own infotainment system itself offers a wide range of entertainment options. In addition to a variety of audio streaming services, it is even possible to access Youtube, Netflix or Disney+ when

the car is stationary. And an internet browser provides access to any number of other information sources and services. When it comes to messaging, however, Tesla only likes to make friends with SMS, but not with e-mails.

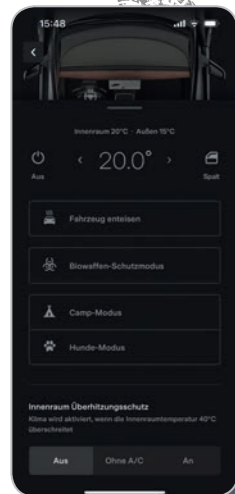
The navigation uses the large central display, but has no 3D visualization. The vehicle intelligently and reliably suggests the charging stops that are important for e-drivers – but only shows the route to the next charging point. App functions such as the remote display of the vehicle's surroundings or overheating protection are nice. The driver assistance functions include automatic parking and almost all other important categories – only a high-beam assistant is not available, despite the ample camera configuration.

Overall, the testers saw some room for improvement, especially in the area of usability.

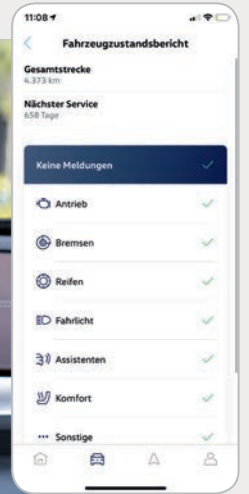
### TESLA MODEL Y PERFORMANCE AWD

Nominal performance:	393 kW (534 hp)
max. torque:	not known
Maximum speed:	250 km/h
Acceleration 0-100 km/h:	3,7 s
Battery capacity (net):	79 kWh
max. charging power:	11 kW AC/250 kW DC
Range (WLTP):	max. 533 km
Test car price:	72 500 Euros

connect verdict: satisfactory (693 Points)



Specialities: The Tesla app offers some special functions from protection against overheating to "bio-weapon protection mode".



Status report: "We Connect" can display basic information such as the vehicle status, but some advanced functions are missing.

# Volkswagen ID.4

► As the bigger brother of the VW ID.3, which is positioned in the Golf class, the ID.4 is a straightforward electric SUV. Within the Wolfsburg engine range, the rear-wheel drive "Pro Performance" version we tested is more of a practicality variant for everyday use, while its larger all-wheel drive brothers show sportier ambitions. But VW's infotainment equipment is also largely independent of the (electric) engine. We tested the "Discover Media" version.

The 5.3 inch speedometer display in the ID.4 flanks a central 12 inch touchscreen. On its lower edge is a touch bar that takes a little getting used to, providing quick access to important functions such as volume or climate control. If required, this combination can be supplemented by a head-up display. A light band in front of the windscreen provides further feedback, for example when using the voice control or through animated directional information during route guidance by the navigation system. However, the voice

control should be somewhat more dialogue-oriented and support more vehicle functions.

### Mixed user experience

The driver's smartphone can be connected wirelessly via Android Auto or Carplay and charged inductively. If desired, it can also share its online connection. Alternatively, this can be done via the integrated LTE modem with an eSIM and data packages purchased for this purpose. However, we searched in vain for internet radio and streaming services in the ID.4; music could only be played via Bluetooth in the test. The on-board system supports SMS communication in both directions, but e-mails

can only be displayed, but not composed or sent.

VW has extended the navigation with an intelligent e-route calculation – the charging planning and the display of information about the charging stations at planned charging stops work well in the vehicle. However, if the route planning is done in the "We Connect" app, it does not take the current battery range into account. Private car sharing and a digital vehicle key are not available, nor is first- and last-mile navigation or remote door locking.

In terms of driver assistance systems, the ID.4 offers the usual scope, but lacks high beam assist and an automatic parking function. Compared to the software version, which was heavily criticised at the time of market launch, the ID operation has clearly improved – but a little more fine-tuning would be nice.

### VOLKSWAGEN ID.4 PRO PERFORMANCE

Nominal performance:	150 kW (204 hp)
max. torque:	310 Nm
Maximum speed:	160 km/h
Acceleration 0-100 km/h:	8,5 s
Battery capacity (net):	77 kWh
max. charging power:	11 kW AC/135 kW DC
Range (WLTP):	max. 535 km
Test car price:	48 340 Euros

connect verdict: satisfactory (688 Points)

**LIXIANG L9 AWD + RANGE EXTENDER**

**Nominal performance:** 240 kW (326 hp)  
**max. torque:** 530 Nm  
**Maximum speed:** 180 km/h  
**Acceleration 0-100 km/h:** 5,3 s  
**Battery capacity (net):** 37,2 kWh  
**Tank (petrol):** 55 Liter  
**Range (WLTP):** 200+1115 km  
**Test car price\*\*:** 64 569 Euros

**connect** verdict: **satisfactory (711 Points)**

► The special feature of this electric SUV is its petrol-powered range extender. It is used to recharge the battery while driving and thus promises a range of over 1300 km. The L9 cockpit is dominated by two 15.7 inch touchscreens, one of which is reserved for the front passenger. As is typical for China, Carplay and Android Auto are missing. Also, the other infotainment functions are still expandable. The voice control does not yet speak German, but the assistance functions are quite complete and the overall package is easy to operate.



**NIO ET7 (AWD)**

**Nominal performance:** 480 kW (653 hp)  
**max. torque:** 850 Nm  
**Maximum speed:** 200 km/h  
**Acceleration 0-100 km/h:** 3,8 s  
**Battery capacity (net):** 100 kWh  
**max. charging power:** 11 kW AC/130 kW DC  
**Range (WLTP):** 580 km  
**Test car price\*\*:** 78 566 Euro

**connect** verdict: **good (758 Points)**

► The all-wheel drive sports sedan offers top performance. It has been available for order in Germany since October, although Nio relies on a subscription model here and has yet to set up a rapid exchange infrastructure for its solid batteries. However, the battery can also be charged in the traditional way. For European users, the animated robot head of the AI “Nomi” in the cockpit takes some getting used to. Otherwise, the manufacturer does a lot right in terms of usability. But Carplay and Android Auto are missing, and the voice control system has yet to learn German.



**ZEEKR 001 (AWD)**

**Nominal performance:** 200 kW (272 hp)  
**max. torque:** 384 Nm  
**Maximum speed:** 200 km/h  
**Acceleration 0-100 km/h:** 6,9 s  
**Battery capacity (net):** 86 kWh  
**max. charging power:** 11 kW AC/360 kW DC  
**Range (WLTP):** max. 526 km  
**Test car price\*\*:** 41 962 Euro

**connect** verdict: **satisfactory (667 Points)**

► The electric brand of the Geely group, which also has a stake in Polestar and 10 per cent in Daimler, is scheduled to come to Europe in 2023. The specifications of the “Shooting Brake” Zeekr 001 sound promising. In terms of equipment, however, we miss infotainment features including Carplay and Android Auto, and the voice control system only speaks Chinese and English. There is still room for improvement in the route guidance, and the assistance functions are a little thin on the ground – but what is available is easy to use.



Brand		Nio	Lixiang	Zeekr
<b>Model</b>		<b>ET7</b>	<b>L9</b>	<b>Zeekr 001</b>
<b>Feature Score</b>	<b>max. 449</b>	<b>good (339)</b>	<b>satisfactory (323)</b>	<b>sufficient (279)</b>
Infotainment + App	105	67	55	58
Navigation, E-Mobility + Driver Assistants	144*	97	97	81
Connectivity + Hardware	200	175	171	140
<b>User Experience</b>	<b>max. 470</b>	<b>good (419)</b>	<b>good (388)</b>	<b>good (388)</b>
Smartphone App/Remote Functions	30	23	25	25
Navigation	50	44	38	38
Convenience	50	46	39	39
Productivity	20	18	18	18
Communication	50	45	46	46
Voice Operation	40	38	33	33
Entertainment	50	49	47	46
Digital Cockpit	10	8	9	9
Driver Assistance	30	29	25	25
Charging	–*	–	–	–
Miscellaneous	20	18	17	18
System perception during use	120	101	91	91
<b>connect</b>	<b>VERDICT max. 919*</b>	<b>good 758</b>	<b>satisfactory 711</b>	<b>satisfactory 667</b>

The detailed equipment tables of the three Chinese test vehicles can be found online here (in German):

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www.connect.de/3203032

\* Due to a lockdown in Shanghai at the time of the test, the charging functions could not be fully tested. They were therefore excluded from the evaluation. \*\* Converted from RMB.

Testergebnisse

Brand	Mercedes	BMW	Audi	Polestar	Hyundai	Tesla	Volkswagen	
Model	EQE 500 4matic	i4 eDrive40	RS e-tron GT	Polestar 2	Ioniq 5	Model Y	ID.4 Pro	
Infotainment system	MBUX	BMW iDrive	MMI Navigation plus	–	–	–	Discover Media	
Test car price at time of testing (Euros)	134 434	78 790	164 605	62 400	61 900	72 500	48 340	
<b>Features</b>								
<b>Display(s) and Hardware</b>								
Size: Cockpit display/Main display/additional display (inch)	"Hyperscr." 12,3/17,7/12,3	"Curved Widescr." 13,3/14,9	MMI touch 12,3/10,1	12,3/11,2	12,3/12,3	–/15	5,3/12,0	
Headup display/inductive smartphone charging	+	+	+	+	+	+	+	
USB connections	USB-C: 2x Front, 2x Center	USB-A: 1x Center, USB-C: 1x Center, 2x Rear	USB-C: 2x Center	USB-C: 2x Front	USB-A: 3x Front, 2x Rear	USB-C: 2x Front, 2x Rear	USB-C: 2x Front, 2x Rear	
<b>Infotainment/Multimedia</b>								
Android Auto/Apple Carplay/Mirror Link	wireless/wireless	wireless/wireless	wireless/wireless	both wired + wireless	both wired + wireless	+/+	both wired + wireless	
User Profiles/Address Book/Calendar Integration	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	
Internet Browser	+	+	+	+	+	+	+	
SMS: enter/dictate/view/read out	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	
E-Mail: enter/dictate/view/read out	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	
Customizable Menu/Concierge Service/Digital Logbook	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	
Third Party Apps (App Store)/Virtual Personal Assistant	only preinstalled/+	only preinstalled/+	+/+	+/+	+/+	+/+	+/+	
FM/DAB/Web radio/Hybrid radio/integrated Streaming Services	+/+/+/+/Amazon, Apple, Spotify, Tidal	+/+/+/+/Spotify	+/+/+/+/Amazon, Apple	+/+/+/+/Spotify, more via download	+/+/+/+/+	+/+/+/+/Spotify, TuneIn, Tidal, Youtube, Netflix and more	+/+/+/+/+	
USB: Music/Video / Bluetooth / Equalizer / Surround Sound	+/+/+/+/+	+/+/+/+/+	+/+/+/+/+	+/+/+/+/+	+/+/+/+/+	+/+/+/+/+	+/+/+/+/+	
<b>Navigation: Features</b>								
Map Updates/POI Search/Augmented Reality Navigation	manual + OTA/+/+	manual + OTA/+/+	manual + OTA/+/+	manual + OTA/+/+	manual + OTA/+/+	manual + OTA/+/+	manual + OTA/+/+	
Traffic Light Detection/Traffic Sign Detect./Speed Limit Display	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	
Parking space search: Street/Carpark / Google Earth/3D maps/3D buildings	+/+/+/+/+	+/+/+/+/+	+/+/+/+/+	+/+/+/+/+	+/+/+/+/+	+/+/+/+/+	+/+/+/+/+	
Alternative Routes/Eco Routes/Live Traffic Information	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	
<b>Navigation: Electro Mobility</b>								
Info on charging stations: Location/availability	+/+	+/+	+/+	+/+	+/+	+/+	+/+	
Route planning with charging stops/consideration of range	+/+	+/+	+/+	+/+(A Better Route Planner)	+/+(manual)/+	+/+	+/+	
<b>Connectivity: Interfaces, Operating controls</b>								
eSIM/SIM Slot/LTE/5G/Data Connectivity via Phone/Car2X	+/+/+/+/+/+	+/+/+/+/+/+	+/+/+/+/+/+	+/+/+/+/+/+	+/+/+/+/+/+	+/+/+/+/+/+	+/+/+/+/+/+	
Initial runtime of the data packets/Wi-Fi Hotspot	Purchase necess., 1 Year/+	Purchase necess., 3 Years/+	Purchase necess., 1 Year/+	(only via smartphone)/+	(only via smartphone)/+	8 Years/+	Purchase necess., 1 Year/+	
eCall (Emergency)/bCall (Roadside Assistance)/Digital Key	+/+/+ (optional)	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	
Speech Recognition/Natural Speech Output	AI based/+	AI based/+	klassisch+AI based/+	AI based/+(Google Ass.)	classic/+	AI based/+	classic/+	
Steering Wheel Heating/Electric Steering Wheel Adjustment	+/+	+/+	+/+	+/+	+/+	+/+	+/+	
Gesture control/Pad (handwriting input)/Controller	+/+(Handwr. on Displ.)/+	+/+/+	+/+(Handwr. on Displ.)/+	+/+/+	+/+/+	+/+/+	+/+/+	
Display: Touch Control/Haptic Feedback	+/+	+/+	+/+	+/+	+/+	+/+	+/+	
<b>Connectivity: Smartphone App</b>								
App Name/Available for Android/iOS	Mercedes Me/+/+	My BMW/+/+	myAudi/+/+	Polestar/+/+	Bluelink/+/+	Tesla/+/+	We Connect/+/+	
Unlock and lock doors/Share Location	+/+	+/+	+/+	+/+	+/+	+/+	+/+	
Send address or POI to vehicle/First/Last Mile Navigation	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	
(De)activate Air Conditioning/AC Timer/Private Car Sharing	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	
Maintenance Reminder/Push Info/Vehicle Status	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	
<b>Driver Assistants</b>								
High Beam Assist/Adaptive Cruise Control	+/+	+/+	+/+	+/+	+/+	+/+	+/+	
Parking aid: Cameras / Acoustic / Distance Indicator	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	
Automatic parking: Orthogonal/Parallel	+/+	+/+	+/+	+/+	+/+	+/+	+/+	
Blind Spot Assist / Lane Keeping Assist / Pedestrian Protection	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	+/+/+	
<b>Test Results</b>								
<b>Feature Score</b>	<b>max. 500</b>	<b>very good (428)</b>	<b>good (409)</b>	<b>good (402)</b>	<b>satisfactory (371)</b>	<b>satisfactory (373)</b>	<b>satisfactory (367)</b>	<b>satisfactory (335)</b>
Infotainment + App	105	86	87	81	77	82	75	59
Navigation, E-Mobility + Driver Assistants	195	169	157	159	150	160	160	139
Connectivity + Hardware	200	173	165	162	144	131	132	137
<b>User Experience</b>	<b>max. 500</b>	<b>good (422)</b>	<b>good (406)</b>	<b>satisfactory (362)</b>	<b>good (383)</b>	<b>satisfactory (348)</b>	<b>satisfactory (326)</b>	<b>satisfactory (353)</b>
Smartphone App/Remote Functions	30	27	20	24	20	23	24	17
Navigation	50	46	41	43	39	36	27	43
Convenience	50	48	45	44	45	42	15	45
Productivity	20	19	18	13	17	15	17	0
Communication	50	43	43	40	44	39	31	43
Voice Operation	40	33	32	21	32	21	21	25
Entertainment	50	45	42	34	35	28	48	31
Digital Cockpit	10	9	9	9	6	7	0	5
Driver Assistance	30	28	29	14	21	25	25	25
Charging	30	29	27	30	30	29	29	27
Miscellaneous	20	15	18	15	14	15	12	13
System perception during use	120	80	82	75	80	68	77	79
<b>connect</b>	<b>VERDICT max. 1000</b>	<b>very good 850</b>	<b>good 815</b>	<b>good 764</b>	<b>good 754</b>	<b>satisfactory 721</b>	<b>satisfactory 693</b>	<b>satisfactory 688</b>



Conclusion

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The German premium manufacturers have done their homework when it comes to connectivity and e-mobility. It is not for nothing that the familiar brand trio of Mercedes, BMW and Audi comes out on top in our comparison test. Some operating concepts are certainly brand-specific and a matter of habit. However, the everyday usage scenarios evaluated by the test teams on the basis of questionnaires show that the current MBUX generation of the Mercedes EQE is way ahead in terms of ease of use and charging planning and is therefore the only candidate to earn the grade "very good".

BMW follows at a clear distance in second place and Audi in third. The Polestar 2, which is considerably cheaper, also achieves the grade "good". However, you have to get used to its Android-based operation, which is consistently embedded in Google's app and service world. Convinced Google fans should feel very comfortable with it. On the other hand, those who have had experience with the classic car brands might not be totally

comfortable with the concept. Hyundai's equipment and range of functions are good, but the Koreans need to do better in terms of usability. Our test also shows that Tesla and Volkswagen still show room for improvement, although many things have already been enhanced compared to earlier software versions of these manufacturers. With Tesla, much is a question of personal convictions and preferences of the drivers anyway – and this also applies to a certain extent to the vehicle operation.

Unfortunately, our look at three promising innovations from Chinese manufacturers, which was planned as a freestyle addition to our test, suffered from the fact that a Corona-related lockdown in Shanghai prevented more extensive electric test drives.

So we had to stick to a predominantly stationary evaluation of the features and usability concepts. On the one hand, the results show that the new car brands from China still have some (mainly software) development work to do before they can enter the European market – from adapting the voice control systems to local languages to smartphone support via Carplay or Android Auto that is common in our latitudes. But all these tasks are solvable, and the already good performance of the Nio ET7 in particular proves that European, Korean, Japanese and US car manufacturers should not rest on their laurels.



**connect**  
**CAR CONNECT**  
 Overall assessment  
**BEST IN TEST**

CAR CONNECT

CAR CONNECT