FULLY CHARGED

Which E-Mobility apps make charging electric cars simple and convenient? And what about security? Together with umlaut we have thoroughly tested them.

Drivers of electric cars must be able to quickly and easily locate available and suitable charging points. To some extent, the onboard nav system can help. But in addition and in order to pay for the obtained kilowatthours, it is almost indispensable to also have a selection of e-mobility apps ready on the smart phone.

But how well do these apps work in practice? How successfully do they support the search for an available charging point with the required plug type and the desired charging performance? Do they inform about the expected costs before starting the charging procedure, and are these indications reliable? Does the app provide real-time information about an ongoing charging process? Can the charging be unequivocally ended, and is the subsequent data in the charging history accurate? Is it possible to manage more than one electric vehicle? And how well does the app help if something does not work as expected? We have examined and answered these and many more pratice-oriented questions in our big test of e-mobilty apps.

Focusing on app security

But it does not stop there. As usual in our app tests, the apps' security also was an important point. In order to assess this aspect, the experts of our partner umlaut went looking for possible weaknesses and vulnerabilities again. With their testing methodology (also see page 91), the Aachen-based security professionals have inspected the protection of personal data, the encryption of the data communication between the apps and servers, the authentification mechanisms and rights management as well as the safeguarding of the apps' source codes. We communicate any detected weaknesses to the providers, but do not describe them in detail here in order to prevent possible misusage.

But now let's raise the curtains: Which apps are the best companions to drivers of electric cars?

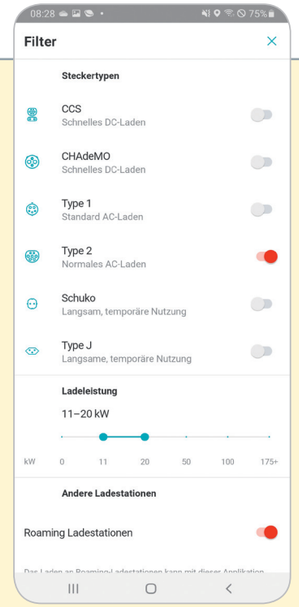
Hannes Rügheimer

Photo: Sofiko5/shutterstock.com

E.ON Drive

A meaningful use requires the E.ON charging tariff of the same name. The security test shows a good result.

■ The "Drive" app by the energy provider E.ON is firmly linked to the "E.ON Drive" charging tariff and therefore requires closing a contract with a basic fee of 4.95 Euros/month. The ongoing charging costs, which are calculated by kWh or by a one-off charge ("session fee") depending on the charging point, are added to this.
If this offer no longer suits you, you can cancel on a monthly basis. However, it makes little sense to use the app without registering with E.ON, especially as then no prices are given for the displayed charging points.
The app guides the user to charging points which can be used with this tariff and also serves for activating those charging points. A navigation function is not included, but the location of a selected charging point can be transferred to Google Maps or Apple Maps. Searching for charging points includes all necessary filter functions, but locating free charging points is not offered. However, the app can also manage a domestic wallbox if the user purchased it from E.ON.
In our tests, we experienced no problems during practical use. Users in the Google Play Store do report some deviations between the consumption display in the app and the subsequent billing – but in such cases, the agreed, lower price appeared on the monthly bill.
In umlaut's security rating, E.ON Drive is the second-best ranking app behind Plugsurfing. Irrespective of some minor weaknesses, the protection of the user's personal data is very good. Despite a slight potential for improvements, the connection security is on par with the competitors.
The protection against identity theft and against the expansion of user rights could also be improved in some details, as could the protection of the app source code.



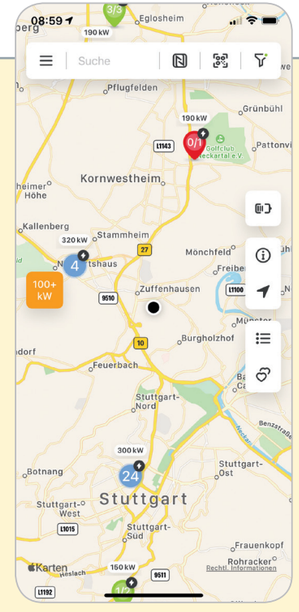
Practical: All important criteria are available in the filter functions of E. ON Drive. Only a search for free charging points is not offered.

connect verdict: satisfactor (708 Points)

EnBW mobility+

The e-mobility app of EnBW performs convincingly and wins the overall victory – despite potential for improvement in the area of safety.

■ The charging app of the Baden-Wuerttemberg energy provider is rightly considered to be standard equipment for most e-mobilists. In addition to the provider's own e-mobility tariffs, charging tariff of the German automobile club ADAC can also be registered in the app. However, the app can also be used as a search tool for charging stations without registering. In addition, EnBW wants to convey a feeling for electromobility with an e-driving simulator that drivers of combustion vehicles can run during their journeys.
The filter functions leave little to be desired – the only thing the app doesn't like to do is point out free charging points. It transfers the location of a charging point to Google Maps, Apple Maps or the Navigon navigation app. The price information before the start of a charging process is just as complete and correct as the real-time information during charging. Authentication is possible via QR code, via RFID (if both the charging point and smartphone support this) or by selecting the charging point in the app. A practical management of several electric vehicles is also present, as is support for multiple charging cards. Registration can be done via the app, and credit card and direct debit cards are available as payment options. We also had no complaints about the help functions, service and contact options.
In the umlaut security rating, the EnBW app ranks in the good midfield – there are no serious problems, but we found a little room for improvement in details. When it comes to protecting personal data, connection security and preventing identity theft, the app is on the same level as most of its competitors. For the security of the source code, EnBW receives the highest score together with E.ON. In the overall ranking, mobility+ wins the test just ahead of Plugsurfing.



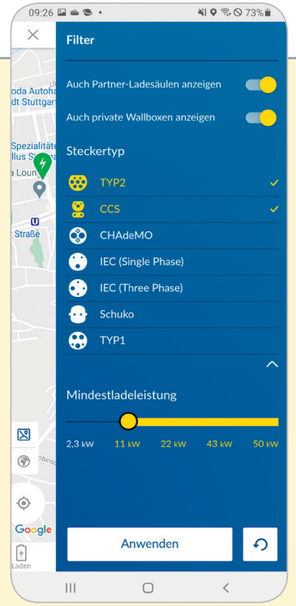
Faster charging: One of the practical features of EnBW mobility+ is the filtering according to charging power, which can be selected directly from the map view.

connect verdict: good (811 Points)

EWE Punktladung

The EWE app offers basic benefits even without the energy provider's charging card. In terms of security, it ranks in the good midfield.

■ The EWE "Punktladung" app is primarily intended as a tool to accompany a "Mobility Card" from Energieversorgung Weser-Ems. However, at least the search for charging points can also be used without registering. However, prices are only displayed after registration of the charging card. But at least this only costs a one-time fee of 9.90 Euros and no ongoing monthly fees.
All relevant filter functions are available for searching charging points, but the app does not show free charging offers. Still, a private wallbox can be managed via the app.
The app cannot navigate independently, but it can transfer the location of a selected charging station to Google Maps or Apple Maps. However, compared to most other e-mobility apps it only shows a few charging stations – just the ones which can be used with the EWE tariff and with the provider's partners. In the practical test, we stumbled across a hurdle that other users also report in the Google Play Store: Instead of calling up further details about the charging point in question, we accidentally started a charging process – without an electric car actually being plugged into the charging station.
This "virtual" charging could not be stopped despite several attempts. It does not seem to incur any costs – but it only ended automatically after 24 hours. During this time, no further charging process can be started.
The general terms and conditions as well as the data protection guidelines are hard to capture at a glance, because all of them are contained in one long legal text.
In the security assessment by umlaut, the EWE app did well overall, even if there is still room for improvement in some details. Overall, the results in all categories tested by the security experts are ranging in the good midfield of our comparison.



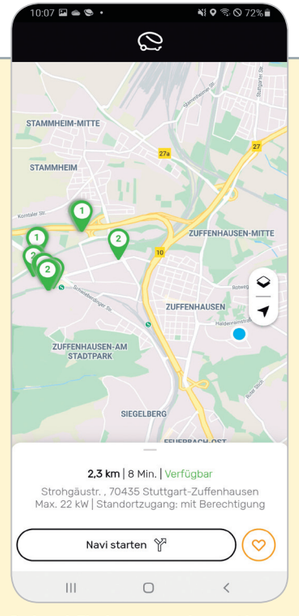
Limited: All important filter functions are available, but the EWE app does not like to direct its users to free charging stations.

connect verdict: satisfactory (695 Points)

Innogy/DKV eCharge+

The Innogy app also informs customers of the fleet manager DKV as well as other e-car drivers. In terms of safety, it is good average.

■ The energy supplier Innogy and the fleet management service provider DKV have founded a joint venture called "Charge4Europe", to which Innogy contributes its charging app, among other things. In addition to Innogy and DKV or Charge4Europe customers, the app is also available to all other e-car drivers.
However, the activation of charging points and the billing of electric refuelling require a car charging contract with Innogy.
This also leads to the fact that comparatively few charging points are displayed.
On the other hand, the app also supports the management of an Innogy "home eBox" wallbox.
Apart from the somewhat limited range of charging points, the filtering works well and even free charging points can be found.
It is a little unusual that there is no list of nearby charging points shown. However, the "Start navigation" button "only" transfers the location of a selected charging point to Google Maps or Apple Maps.
If an Innogy charging tariff is registered, which can be settled via credit card or PayPal, the app shows exactly how the charging costs are made up. Multiple vehicles can also be managed. Rather amusing for e-car drivers is the option to also search for ship charging stations.
Even weirder, but perhaps interesting for e-mobility-fans: the app also reveals the electricity meter readings of some public charging points.
The security experts at umlaut found nothing serious in the Innogy app as well. However, they did find a number of starting points for further hardening the app's security. The results for practically all test items range in the midfield or at the same level as the other apps tested.



Reduced: The Innogy app does not know too many charging points, and the usual list view of charging points is missing. Otherwise, the functions are complete.

connect verdict: good (753 Points)

Maingau EinfachStromLaden

The Maingau app is appealing with its special features and transparent prices. However, it comes in last in the security rating.

■ "EinfachStromLaden" from Maingau can be found in the app collection of many e-car drivers, as it offers good search functions, but also a charging tariff of the same name with a transparent pricing model. Energy customers of the utility based near Offenbach am Main pay 10 cents per kWh less than normal users. There are no ongoing fixed costs, and credit cards as well as SEPA direct debit are supported as payment methods. Even the use of the expensive Ionity charging stations is a few cents cheaper than with the fast-charging provider itself – unless you already enjoy special conditions as a driver of one of the premium brands behind Ionity.
Anyone who wants to become a customer can register directly in the app. However, it can also be used without a contract for information purposes. A practical feature is that the app offers a real navigation function in addition to the usual filtered search for charging points. Above that, the app also suggests charging stations along the route and roughly considers the range of the stored electric car – of which there can be several to choose from. Alternatively, a transfer of a location to Google Maps or Apple Maps is also possible. Another good feature which is unique in the test field is that many charging points are even shown on photos.
Another good idea is the service contact via WhatsApp – in addition to the usual options of phone and e-mail. The help texts, on the other hand, are displayed somewhat indifferently via in-app browser from the Maingau website.
However, the Maingau app comes in last in the security assessment carried out by umlaut. The experts have identified potential for improvement above all in the protection against identity theft and rights expansion, but also in the other categories of their security tests. other categories of their security tests.

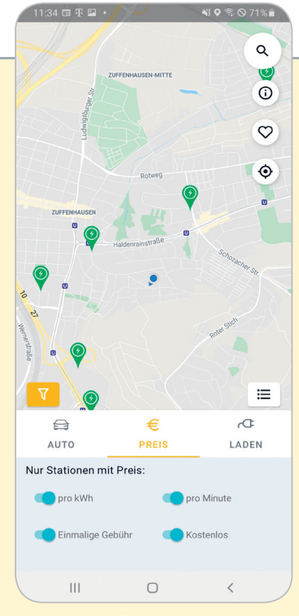
Orientation aid: EinfachStromLaden offers all the usual filter and management functions and also shows photos of many charging points' surroundings.

connect verdict: good (764 Points)

Plugsurfing

Even though the provider has angered its fans with a price increase, its app is top – and is ahead in the safety rating.

■ The idea behind the Plugsurfing charging network is to make charging transparent with as many supported charging stations as possible at uniform prices. For this purpose, customers identify themselves at the charging point via RFID charging chip or charging card. The app is used to find stations which can be used as part of the charging network and to manage the actual charging processes. However, the price increase that came into effect in January, which made charging in particular at DC charging points much more expensive, has incurred the displeasure of many previous fans. Although the pricing is not a criterion for this evaluation, user feedback in the Google Play Store frequently mentions discrepancies between the costs announced in the app and those later invoiced. In addition, some users complain about bills arriving very late. However, the app itself made a very good impression in our test and finished only slightly behind the test winner EnBW in the overall ranking.
In our practical tests, however, it was occasionally necessary to log in to the app again. However, the filter functions are convincing: the stations can also be searched for one of several e-cars based on their individual plug type and charging power as well as by billing model (see screenshot).
Unique in the overall test field and very practical: the app also displays its user interface via Apple CarPlay – but unfortunately not yet via Android Auto. Navigation to a charging point is done via Google or Apple Maps.
In umlaut's safety rating, the app comes in first place. Even though there is still room for improvement in some aspects, Plugsurfing's overall performance in the security category is absolutely convincing.



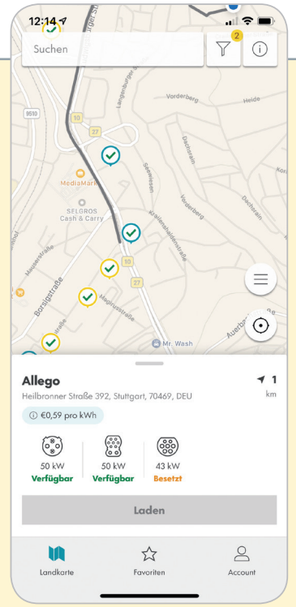
Useful details: The Plugsurfing app contains a number of good ideas – including filtering by registered e-car or by the type of pricing model.

connect verdict: good (808 Points)

Shell Recharge

The expertise taken over from NewMotion is reflected in practical details. The overall safety is also convincing.

■ After the takeover of the charging card provider NewMotion, its RFID cards and chips as well as its app have been merged into the offer and new brand Shell Recharge. The app provides information about a very large number of usable charging points even without registration. Those who want to use the charging tariff offered by Shell can order the RFID charging card or key fob required for this after registration for a one-off price of 10 euros.
However, only a bank account (SEPA direct debit) can be used as a payment option. Customers of this provider also complain about the prices, which were increased some time ago – but this is not a test criterion for our app evaluation.
The expertise acquired with NewMotion is reflected in useful details. For example, when estimating the price before charging, you can also set the battery level ("state of charge") up to which the charging is expected – for example, from 10 to 80 percent. On this basis, the app then estimates both the charging time and the expected price. Filter functions, real-time information and the management of several e-cars are all available. For navigation, the app transfers locations to Google Maps, Apple Maps or the navigation app from Here. The feedback function for reporting charging station malfunctions is also very good. In practice, however, two problems occurred: In charging parks with several charging points, the app fails to precisely identify the selected connection. And sometimes it was not possible to terminate charging unequivocally via the app.
In the security tests carried out by umlaut, the Shell app came out on top. Together with Plugsurfing, it achieved the highest score for measures against identity theft, but there is still some room for improvement when it comes to securing the source code.



Overall convincing: Filter functions and other details are practical – however, the app makes most sense with a Shell charging card or RFID chip.

connect verdict: good (762 Points)

Interview

No serious security gaps

Hakan Ekmen, CEO telecommunication, umlaut

How well do the apps of the e-mobility providers perform in terms of safety? We spoke to Hakan Ekmen, CEO telecommunication at our partner umlaut, about the results.

Mr Ekmen, what are your general comments about the results of the safety investigations into e-mobility apps carried out by umlaut?
Hakan Ekmen: It is always very relieving when we do not discover any serious security gaps during the checks. That was also the case here. Nevertheless, there are differences in the details of the results. My congratulations go to Plugsurfing for a very good result and to most of the other providers for a good result in the security category. Only Maingau could merely achieve a satisfactory result in this discipline. Of course, we support all providers in further improving the security of their apps.

Do the users of those apps which scored lower now have to worry?
Hakan Ekmen: Definitely no. The vulnerabilities found by our team can be targets of theoretical attacks or represent conceptual weaknesses. But this does not mean that they would already be exploited by anyone. Rather, our goal is to actually prevent all conceivable attack vectors, and that is possible without considerable efforts.

How does the result compare to the other app categories tested so far?
Hakan Ekmen: The service apps of the mobile network operators and MVNOs, or mobile discounters, which we last examined, achieved a higher overall score level in our most recent tests than the e-mobility apps now. But that is not unusual when we look at a new category for the first time. I am convinced that the e-mobility apps will achieve much better results already in our next test.

Methodology

While the editorial staff tested the functionality, handling and service aspects of the apps, our partner umlaut examined their security and their backend connections.

■ An app can receive up to 300 points for its functionality and the management of charging processes, and up to 200 more for app operation, payment, formalities and support/help.
The remaining maximum of 500 points are awarded for the apps' security. In order to determine this, umlaut examined the four categories of data privacy, traffic protection including encryption, measures against impersonation attacks and rights expansion as well as the security of the app source code. The attack scenarios examined were based on the guidelines for secure of the German Federal Office for Information Security (BSI, Bundesamt für Sicherheit in der Informationstechnik) and the Open Web Application Security Project (OWASP). Many tests have been developed by umlaut itself and all results have been verified by two engineers for control purposes. For security reasons, however, we have refrained from giving detailed descriptions of the individual vulnerabilities in order to prevent possible criminal acts.
We have weighted how well the app manufacturers have implemented **Data Privacy** with the most points. In this category, we examined whether the apps store personal data such as login and user information in the smartphone memory with sufficient protection. **Traffic Protection** or how well the data flow between the app and the server is secured was also a test criterion. Here, umlaut checked for example whether the app uses current encryption methods and whether it transmits data securely. In addition, the test examined the app's correct handling of SSL certificates. In the category of **Impersonation Attacks** or identity theft, umlaut checks whether authorisation mechanisms of the apps can be bypassed. It would also be critical if an app had no protection against cloning. Attackers could then create an exact copy of the app and extract all personal data. As, the source code can also be a gateway for attacks. Therefore, we checked in the **Secure Code Practices** category whether the third-party components were implemented securely and whether the app stores important files in an obfuscated manner.

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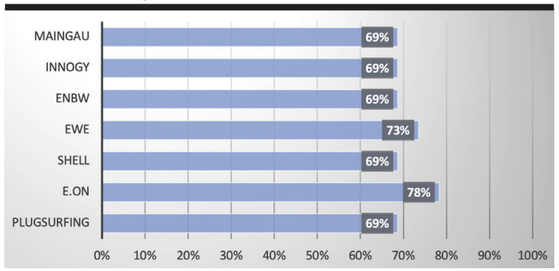
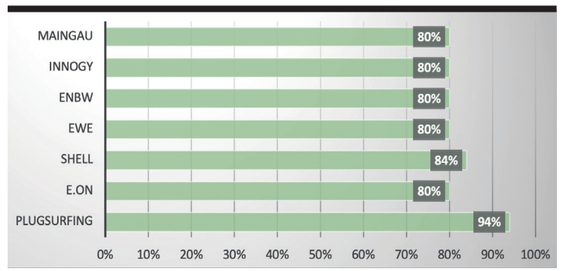
Data Privacy



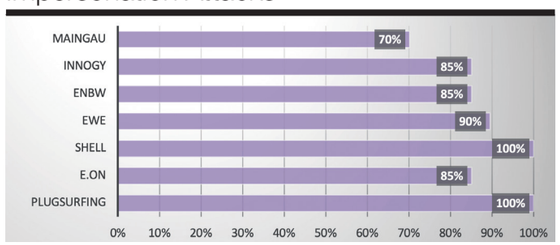
When it comes to the protection of personal data, all the apps tested could still improve. The best result here is achieved by E.ON – but even there there is still room on the upside.

Traffic Protection



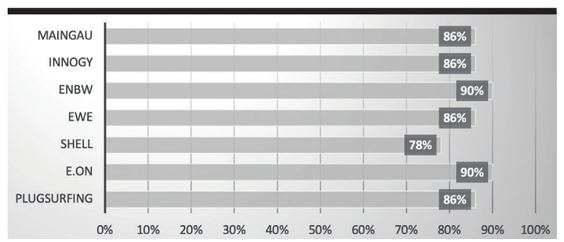
Even though all the apps tested achieved a high level of connection security, there is still room for improvement. Plugsurfing is clearly ahead here.

Impersonation Attacks



Shell and Plugsurfing are top performers regarding identity protection, followed by EWE. Except for Maingau, the rest of the test field is at a fairly high level.

Secure Code Practices



Shell should put the security of the app source code up a notch. EnBW and E.ON score best in this discipline. But there is potential for improvement at all of the candidates.

Electro mobility apps

Provider		EnBW	Plugsurfing	Maingau		Shell	Innogy/DKV	E.ON	EWE
Version of Android app		mobility+ v6.7.1	Plugsurfing v6.0.10	EinfachStromLaden v2.0.5		Recharge v8.2.0	eCharge+ v1.8.53	Drive v2.5.5.3	Punktladung v2.9.1
Functionality	**max. 300**	**good (233 Points)**	**good (228 Points)**	**good (230 Points)**		**satisfactory (202 Points)**	**satisfactory (219 Points)**	**satisfactory (197 Points)**	**sufficient (169 Points)**
Functions around charging	max. 250	satisfactory (183 Points)	satisfactory (182 Points)	satisfactory (180 Points)		sufficient (158 Points)	satisfactory (185 Points)	satisfactory (169 Points)	sufficient (154 Points)
Search and filter charging points by charging performance / fast charging / plug type / availability		⊕/⊕/⊕/⊕	⊕/⊕/⊕/⊕	⊕/⊕/⊕/⊕		⊕/⊕/⊕/⊕	⊕/⊕/⊕/⊕	⊕/⊕/⊕/⊕	⊕/⊕/⊕/⊕
Skipping or designation of defective charging points / based on support via the app or tariff		⊕/⊕	⊕/⊕	⊕/⊖		⊕/⊕	⊕/⊕	⊕/⊕ (only "Roaming")	⊕/⊕ (only partners)
Also search for free charging points possible		⊖	⊕	⊖		⊖	⊕	⊖	⊖
Nav function integrated / considers electric range		⊖/⊖	⊕/⊕	⊖/⊖ (but suggested charging points)		⊖/⊖	⊖/⊖	⊖/⊖	⊖/⊖
Location of charging point can be transferred to ...		Apple Maps, Google Maps, Navigon	Apple Maps, Google Maps	Apple Maps, Google Maps		Apple Maps, Google Maps, Here	Apple Maps, Google Maps	Apple Maps, Google Maps	Apple Maps, Google Maps
Location seach nearby / along the route		⊕/⊖	⊕/⊕	⊕/⊖		⊕/⊖	⊕/⊖	⊕/⊖	⊕/⊖
Information about location (restroom, restaurant etc.)		only via map view	only via map view	via map view + photos		only via map view	only via map view	only via map view	only via map view
Reservation of a charging point possible?		⊖	⊖	⊖		⊖	⊖	⊖	⊖
Clear cost information before charging / including add-ons (roaming, Ionity if supported etc.)		⊕/⊕	⊕/⊕	⊕/⊕		⊕/⊕	⊕/⊕	⊕/⊕	⊕/⊕
Real-time info about current charging: time / kWh / cost		⊕/⊕/⊕	⊕/⊖/⊖	⊕/⊕/⊕		⊕/⊕/⊕	⊕/⊕/⊕	⊕/⊕/⊕	⊕/⊕/⊕
Authentification at station: QR code / phone RFID / others		⊕/⊕/App	⊕/⊖/App	⊕/⊖/Charging point ID		⊖/⊖/App	⊕/⊕/Charging point ID	⊕/⊖/App	⊖/⊖/App
Administrative functions	max. 50	outstanding (50 Points)	very good (46 Points)	outstanding (50 Points)		very good (44 Points)	satisfactory (34 Points)	sufficient (28 Points)	sufficient (15 Points)
Charging history: Place / charged kWh / time / cost		⊕/⊕/⊕/⊕	⊕/⊕/⊕/⊕	⊕/⊕/⊕/⊕		⊕/⊕/⊕/⊕	⊕/⊕/⊕/⊖	⊕/⊕/⊕/⊕	⊕/⊕/⊕/⊕
Access to invoices within the app possible		⊕	⊕	⊕		⊖	⊖	⊕	⊖
Administration of more than one e-vehicle		⊕	⊕	⊕		⊕	⊕	⊖	⊖
Charging cards & chips: Link / also more than one / block		⊕/⊕/⊕	⊕/⊕/⊕	⊕/⊕/⊕		⊕/⊕/⊕	fixed/⊖/⊕	fixed/⊖/⊖	fixed/⊖/⊖
Handling and Service	**max. 200**	**very good (180 Points)**	**good (152 Points)**	**good (160 Points)**		**satisfactory (150 Points)**	**satisfactory (140 Points)**	**insufficient (97 Points)**	**sufficient (118 Points)**
App usability	max. 100	outstanding (95 Points)	satisfactory (74 Points)	very good (86 Points)		good (83 Points)	sufficient (61 Points)	satisfactory (69 Points)	satisfactory (68 Points)
Available for iOS/Android		⊕/⊕	⊕/⊕	⊕/⊕		⊕/⊕	⊕/⊕	⊕/⊕	⊕/⊕
Intuitivity, overall app design		very good	satisfactory	very good		good	good	satisfactory	sufficient
Presentation of charging points: map / address list		⊕/⊕	⊕/⊕	⊕/⊕		⊕/⊕	⊕/⊖	⊕/⊕	⊕/⊕
User account: set up in app / terminate in app		⊕/⊖	⊕/⊖	⊕/⊖		⊕/⊖	⊖/⊖	⊖/⊖	⊖/⊖
Editing or correction of personal data		⊕	⊕	⊕		only partially	⊖	⊖	⊖
Favorites function for preferred charging points		⊕	⊕	⊕		⊕	⊕	⊕	⊕
Report outage of a charging point / new charging point		⊕/⊖	⊕/⊖	⊕/⊖		⊕/⊖	⊕/⊖	⊕/⊖	⊕(Hotline)/⊖
Payment and Formalities	max. 50	good (41 Points)	very good (44 Points)	satisfactory (36 Points)		satisfactory (34 Points)	good (41 Points)	insufficient (15 Points)	insufficient (6 Points)
Supported payment methods: credit card / SEPA / PayPal		⊕/⊕/⊖	⊕/⊕/⊕	⊕/⊕/⊖		⊖/⊕/⊖	⊕/⊖/⊕	⊖/⊕/⊖	⊖/⊕/⊖
Chosing between different payment methodes		⊕	⊕	⊕		⊕	⊖	⊖	⊖
Administration of payment methods (e.g. exp. date), deletion		⊕	⊕	only replace		⊕	⊕	⊖	⊖
Terms and Conditions (completeness, comprehensibility)		very good	good	very good		very good	good	very good	good, but all in one text
Data privacy statement (completeness, comprehensibility)		very good	good	very good		good	good	very good	good, but all in one text
Support, Help	max. 50	very good (44 Points)	satisfactory (34 Points)	satisfactory (38 Points)		sufficient (33 Points)	satisfactory (38 Points)	insufficient (13 Points)	very good (44 Points)
Tutorials or FAQs about spp / about charging point operation		⊕/⊕ call	⊕/⊖	⊕/⊕		⊕/⊖	⊕/⊕	⊕/⊖	⊕/⊕
Call Hotline from within app / ask for call back		⊕/⊖	⊕/⊖	⊕/⊖		⊕/⊖	⊕/⊖	⊖/⊖	⊕/⊖
Further service options		E-Mail	Chat	WhatsApp		E-Mail	E-Mail	E-Mail	E-Mail
Function for app feedback		⊕	⊕	⊕		⊕	⊕	⊖	⊕
Security	**max. 500**	**good (398 Points)**	**very good (428 Points)**	**satisfactory (374 Points)**		**good (410 Points)**	**good (394 Points)**	**good (414 Points)**	**good (408 Points)**
Data Privacy	166	**114**	**114**	**114**		**114**	**114**	**130**	**122**
Traffic Protection	100	**80**	**94**	**80**		**84**	**80**	**80**	**80**
Impersonation Attacks	134	**114**	**134**	**94**		**134**	**114**	**114**	**120**
Secure Code Practices	100	**90**	**86**	**86**		**78**	**86**	**90**	**86**
connect	**VERDICT max. 1000**	**811 good**	**808 good**	**764 good**		**762 good**	**753 good**	**708 satisfactory**	**695 satisfactory**

Conclusion

Hannes Rügheimer, connect author

In an exciting neck-and-neck race, EnBW manages to win the overall ranking just ahead of Plugsurfing. Both apps offer many useful functions in detail. The tariffs offered by the providers are not part of this app evaluation – however, some Plugsurfing users complain about late bills and also some deviations between the billed amount and the information within the app. On the other hand, Plugsurfing comes out on top in the security assessment carried out by umlaut, while the overall winner EnBW ranks in the good midfield in this aspect. Overall, we also find the apps from Maingau, Shell and Innogy/DKV convincing. However, Maingau's "EinfachStrom-Laden" comes in last in out security rating. Even though the weaknesses found are not serious, there is still some potential for improvement. Shell is even far ahead in terms of app security, Innogy in the midfield. The apps offered by E.ON and EWE fall slightly behind in overall functionality, but do well in the security category. They are interesting not least for e-car drivers who also use a private wallbox from one of these energy companies – because they can also be managed via the apps.
All in all, electric car drivers are well advised to have several of the apps tested here on their smartphones and, if necessary, to book the associated charging tariffs, particularly those which have no fixed costs.
The reality of the electric mobility market is that there is still no all-rounder who would cover all cases and charging points. However, if you don't want to pay too much, you also have to know the tariffs – or compare them within the apps before charging.

connect BEST IN TEST