Content

Preface

For several years now, the topic "Connected Vehicle Features" has been very relevant for the automotive industry. Vehicle manufacturers connect vehicles to the internet, for example to collect data on vehicle use or to provide their customers with an enhanced user / driving experience.

In the past, these Connected Vehicle Features were mainly designed to support the driving experience (e.g., navigation services). Today, these Connected Vehicle Features are also increasingly focusing on entertainment purposes (e.g., audio streaming), which can be accessed through the vehicles' own infotainment systems. Industry-wide trends such as the development of autonomous driving will further increase the relevance of Connected Vehicle Features. When people no longer need to focus on driving, they can use driving time to watch videos, make phone calls or read the news.

Consequently, the amount of use cases related to Connected Vehicle Features are increasing. From the point of view of data volume (traffic in the mobile networks), however, traditional telematics applications remain dominant (e.g., transmission of vehicle data to the manufacturers' IT systems).

The introduction of Connected Vehicle Features is linked to numerous legal questions. We are particularly interested in those questions that are closely related to telecommunications regulation and telecommunications law.

In the following, we describe how we support vehicle manufacturers in connecting vehicles to the internet and how this connection affects the customer (e.g., driver of the vehicle or passengers inside the vehicle). Furthermore, we will introduce various parties, who play an active role in enabling Connected Vehicle Features. These parties are vehicle manufacturer, Telekom Deutschland GmbH, Local ISP and End Customers. Annexed to this Service Description you can find a table, where the parties and their roles are summarized.

Connecting the vehicles to the internet

To enable a data connection in the car, a mobile network transmission is used. For this purpose, the vehicle manufacturers purchase SIM cards from a supplier and installs these SIM cards in the vehicles. The term "SIM card" only describes the piece of hardware and at this point the SIM card cannot yet connect to the mobile network.

For the SIM cards to be able to connect to the mobile network, a network profile is installed on the SIM cards. This network profile is provided to the vehicle manufacturers by Telekom Deutschland GmbH. "Provision" means that the features of the SIM cards (e.g., phone number, IMSI, MSISDN) are registered with the vehicle manufacturer. If a law enforcement agency wanted to know to whom a SIM card is registered ("*Who is the subscriber of the SIM card profile*?"), the corresponding information systems would refer to the vehicle manufacturer.

The process of registering the SIM card profile to its subscriber (vehicle manufacturer) is designed according to the legal requirements in Germany, as Telekom Deutschland GmbH has its registered office in Germany. The company headquarters of the vehicle manufacturer is irrelevant for the design of the aforementioned process.

After registering the SIM card to the subscriber, the SIM card's status is changed to active. The SIM card can now establish a data connection with the respective mobile networks.

Information about the SIM card network profiles

Telekom Deutschland GmbH uses two different SIM card network profiles. On the one hand, a TDG Global SIM profile and a SIM profile of T-Mobile Austria GmbH.

The TDG Global SIM profile is in permanent roaming status in all mobile networks, even inside Germany. The T-Mobile Austria GmbH profile is in permanent roaming status in all mobile networks outside Austria. The SIM profiles can establish data connections to the mobile networks of other providers in the respective market.

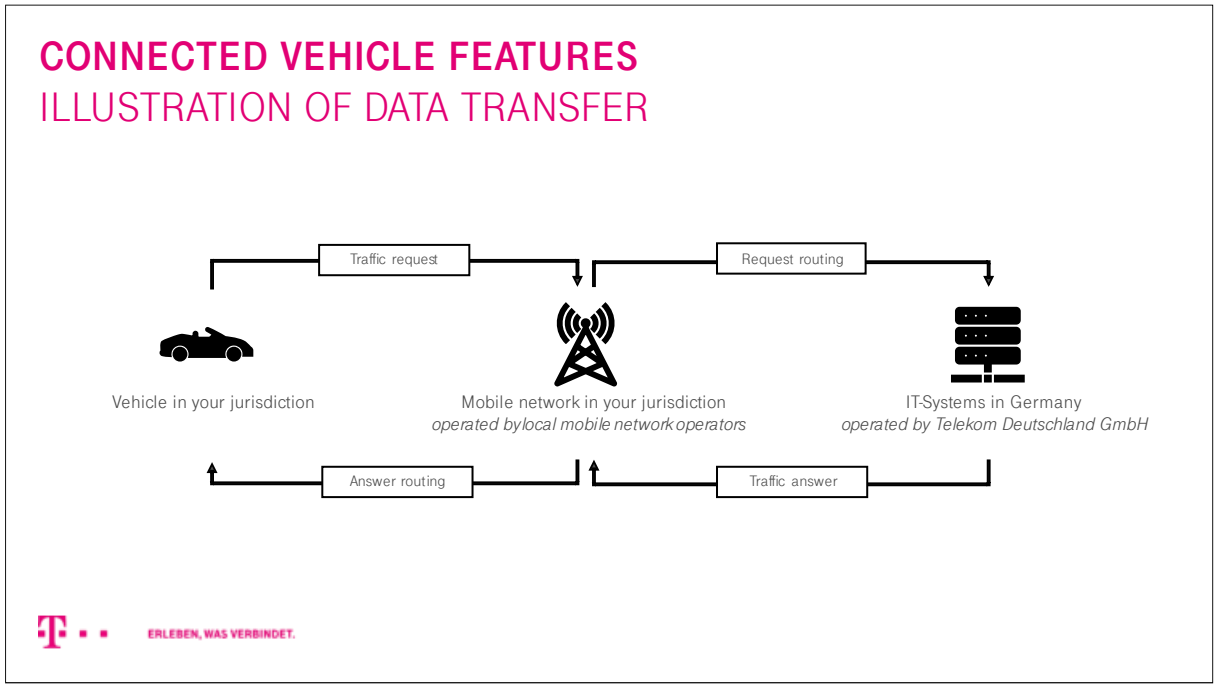
All Connected Vehicle Features are realized via **one/the same** SIM card installed in the vehicle. This SIM card cannot be accessed by an average user and shall not be removed by an average user. If the SIM card is removed without permission, technical security measures will prevent the usage in other devices (e.g., smartphone, tablet).

Data transfer between the vehicle and the Internet

Assume that the vehicle is located in Country A (not Germany and not Austria). For the Connected Vehicle Features to work, the SIM card connects to the local mobile network. The local mobile network recognizes that the incoming mobile network signal (request) is connected to a foreign network profile. In addition, the mobile network signal contains information that the request is to be routed to Germany. The request is always routed from the mobile network to Germany and independent from the fact, which network profile is installed on the respective SIM card.

The request from the vehicle located in Country A is processed and handled in Germany by several IT systems. All IT systems are operated by Telekom Deutschland GmbH and its (technical) service providers. After processing the request through the IT systems in Germany the “answer” is sent from the IT system to the mobile network in Country A. The mobile network in Country A sends the data back to respective vehicle.

Neither Telekom Deutschland GmbH nor the vehicle manufacturers nor the service providers used by Telekom Deutschland GmbH operate any infrastructure in country A. The existing infrastructure of established mobile network providers is used, and this is also contractually regulated via roaming agreements in line with industry standards.



Shared Use of the data connection by the vehicle occupants

The vehicle manufacturer has equipped its vehicles with SIM cards and these SIM cards can connect to the internet. Furthermore, the vehicle manufacturer installs an infotainment system in the vehicle and might offer third parties the opportunity to place their applications (apps) on its plat-

form (infotainment system). We point out that the infotainment systems are a subordinate component of the vehicle. In other words, the main purpose of the vehicle (mobility) functions and operates even if a customer does not use the infotainment system.

As a result, customers can benefit from the built-in Connected Vehicle Features. Connected Vehicle Features are primarily third-party apps which are installed on the operating system of the infotainment systems. After completing this installation, customers can use these apps through the vehicle's infotainment system. This can –to some extent be compared to the situation an average user knows from his or her smartphone or tablet.

The data traffic that is generated during the use of these apps is usually realized via the SIM card installed in the vehicle, which is registered to the vehicle manufacturer. The manufacturer allows its customers to co-use the respective data traffic and to benefit from the data connection in the vehicle (hereinafter "Shared Use"). Shared Use means, that a customer does not have to pay activation fees or usage fees to use Connected Vehicle Features.

We emphasize that the manufacturer does not provide its customers with the data connection as such. The manufacturer rather enables its customers to co-use the existing data connection, which is provided by Telekom Deutschland GmbH to the manufacturer. This data connection enables the usage of Connected Vehicle Features, such as apps, - which can be accessed by a customer throughout the vehicles infotainment system. A customer - as usual on e.g., smartphones - must use his or her own credentials to use the apps based on the respective agreements directly concluded between the customer and the relevant application providers.

The data connection cannot be used by just anyone. The person must have at least access to the vehicle. This can –to some extent be compared to a situation in which a restaurant offers its guests free internet access on its premises, provided that the guests also use its main service (gastronomy). The restaurant is the connection owner (subscriber) and allows other (certain) persons to co-use this connection in special situations.

Types of Connected Vehicle Features

In the following, the client provides a clustered overview of the types of Connected Vehicle Features that can be used via the infotainment systems.

Infotainment systems with basic telematics functionalities ***(case 1)***

Customers can only access / use applications that support the driving experience. Such applications are, for example, navigation apps. If the customer uses these applications via the infotainment system, the required data connection is realized via the SIM card installed in the vehicle.

Infotainment systems with additional entertainment functionalities ***(case 2)***

Additional applications to case 1 may be installed on the infotainment system. These applications are designed to entertain the customer. Such applications are, for example, audio streaming apps such as Spotify. If the customer uses these applications via the infotainment system, the required data connection is realized via the SIM card installed in the vehicle. Whereby a customer - as usual on e.g., smartphones - must use his or her own credentials to use the apps based on the respective agreements directly concluded between the customer and the relevant application provider. Please note that these features are primarily characterized by the fact that no interpersonal communication is possible.

Infotainment systems with messaging functionalities ***(case 3)***

Additional applications to case 1 and 2 may be installed on the infotainment system. These applications are designed to enable interpersonal communication between the customer and others. Such applications are, for example, messaging apps such as WhatsApp or applications to participate in telephone conferences. If the customer uses these applications via the infotainment system, the required data connection is realized via the SIM card installed in the vehicle. Whereby a customer - as usual on e.g., smartphones - must use his or her own credentials to use the apps

based on the respective agreements directly concluded between the customer and the relevant application provider.

Infotainment systems with browser applications ***(case 4)***

Additional applications to case 1, 2 and 3 may be installed on the infotainment system. These applications are designed to enable web browsing for customers. Such applications are, for example, a web browser like Safari or Google Chrome. If the customer uses these applications via the infotainment system, the required data connection is realized via the SIM card installed in the vehicle. Whereby a customer - as usual on e.g., smartphones - must use his own credentials to use the apps based on the respective agreements directly concluded between the customer and the relevant application provider.

WiFi-based Internet Access in the vehicles ***(case 5)***

Irrespective of the Connected Vehicle features that can be used via the infotainment system, there is the case that a Wi-Fi router may be installed in the vehicles. If desired, customers can then activate a Wi-Fi network in the vehicle and connect their devices to this Wi-Fi network. If the customer uses this WiFi network the data connection is realized via the SIM card installed in the vehicle.

Please note, that WiFi-based Internet Access might only be possible, if the customer buys a specific data plan (WiFi pass). WiFi-based Internet Access might not be subject to the shared use concept.

Regulatory assessment of Connected Vehicle Features

To our understanding the vehicle manufacturer provides its customers solely access to the Connected Vehicle Features and is not responsible for any mobile network transmission. The transmission is realized through the SIM card which is installed within the vehicle. The corresponding SIM card network profile is provided to the vehicle manufacturer by Telekom Deutschland GmbH and therefore the vehicle manufacturer shall be considered as the subscriber of the SIM card network profile. Telekom Deutschland GmbH is responsible for all measures related to handling and managing the transmissions.

The vehicle manufacturer grants its customers the right to co-use the data connection (Shared Use) without directly charging the customer any fees for this right.

Introduction of Local ISP

If one concludes that the provision of Connected Vehicle Features is subject to telecommunications regulation and telecommunications law, these services shall be provided to the End Customers by a company mentioned herein as “Local ISP”. The term “End Customer” describes the person, who will enter into a contract with Local ISP about the provision of the connection services.

Local ISP, as a company, shall take over any obligations stemming from telecommunication law and regulation (if there are any), such as notifying telecommunication authorities about the service offer. Furthermore, the Local ISP shall enter into a direct contractual relationship with the End Customer and inform them about all features of its services in a clear and transparent way. Please note, that the term “local” shall not indicate, that the company has necessarily any establishment and / or premises in your jurisdiction, although this might be the case.

The role of Local ISP will be assumed by T-Mobile HotSpot GmbH (Friedrich Ebert Allee 140, 53223 Bonn, Germany, HRB 16010). T-Mobile HotSpot GmbH will provide the access to the Connected Vehicle Features in your jurisdiction. Local ISP will notify the regulatory authority about the service offer.

Prerequisites for using the Connected Vehicle Features

If you conclude that the provision of Connected Vehicle Features is subject to telecommunications regulation and telecommunications law, the following prerequisites for using Connected Vehicle Features shall apply.

Technical Equipment of the vehicle

A vehicle must have the appropriate technical equipment. First, a SIM card must be installed within the vehicle and be equipped with the corresponding network profile. For enabling cases 1 to 4 an infotainment system must be installed in the vehicle (cases 1 to 4). Case 5 would require a Wi-Fi router to be installed.

Activation of Connected Vehicle Features

a) Customer documents

Before an End Customer can access the Connected Vehicle Features for the first time, they have to agree to the terms of use and to take note of the privacy policy. Both documents are provided by Local ISP prior to the service activation. Without the respective consents by the End Customer, Local ISP will not provide access to the Connected Vehicle Features. Both documents (terms of use and privacy policy) can be accessed on Local ISP's website.

Terms of use are written in the official languages of your jurisdiction and provide the End Customer with a comprehensive overview of the service. When using the expression "comprehensive overview" the client intends to indicate, that the document contains information about the following aspects at least:

- Name and contact details of the service provider (Local ISP)
- Description of offered services and intended quality level
- Contractual terms (i.e., perquisites for access to the services)
- Prices & payment methods
- Right of withdrawal
- Customer service and dispute resolution
- Termination of the contract
- Liability

The privacy policy is a document intended to make the data gathering and processing transparent for End Customers. It is written in in the official languages of your jurisdiction and explains the type and scope of data collection, whether and which data is stored, and to what extent third parties are involved in these processes. The document is designed in accordance with the obligations stemming from data protection law, such as GPDP article 13.

Furthermore, Local ISP provides End Customers with a contract summary, prior to the service activation. This document is designed in accordance with the Commission Implementing Regulation (EU) 2019/2243 of 17 December 2019 and sums up the most relevant points of the terms of use in one page.

b) Customer data

If required, Local ISP will gather personal data from its End Customers prior to the service activation. Such data is for example, name and address of the End Customer. This shall only take place if there is a business or legal purpose for the data processing and End Customers explicitly agreed to such data processing.

All customer data shall be stored at least for the duration of the customer relationship. If there is a legal obligation to store this data for a longer period, Local ISP will act accordingly. The authenticity of the information is verified by sending End Customers a link by e-mail following their registration. This link must be confirmed and then the corresponding customer account is created in the IT systems. Without confirmation of this link, the End Customers cannot access the Connected

Vehicle Features. End Customers can always revoke their consent for the data processing. They can also receive information about data processing from the customer service.

All customer data related issues are subject to data protection law (e.g., GPDR), and Local ISP established several mechanisms to ensure a very high level of data protection and data security.

c) Verification of customer data

Furthermore, it might be required that Local ISP checks the information of the End Customer for correctness. If such a check is necessary, then this check is done electronically. Local ISP established two different mechanisms for doing so.

Mechanism 1: Verification via SMS code

During the registration, End Customers provide a mobile phone number. Local ISP will send a code to this mobile phone number via SMS. End Customers need to enter this code on Local ISPs website. If the End Customer enters the code correctly, Local ISP will consider the provided customer data as verified and activate the access to the Connected Vehicle Features. This step has to be carried out in addition to the confirmation of the e-mail link (see above).

Mechanism 2: Verification via service agent (video ident)

After the registration, End Customer will be forwarded to a video chat. During the video chat, the End Customer has to show his or her personal ID to a trained service agent. The service agent checks if the information provided by the End Customer matches with the information on the ID. If required, service agent will take a picture of the ID provided by the End Customer. This copy will at least be stored for the duration of the customer relationship. After the End Customer's identity has been confirmed successfully, the Local ISP will grant access to the Connected Vehicle Features.

Payment for Connected Vehicle Features

It might be the (rare) case, that End Customers cannot benefit from the Shared Use concept. In this case the End Customers have to purchase the services from Local ISP directly (e.g., Wi-Fi pass). In this case, a successful payment process is a prerequisite for the activation of the Connected Vehicle Features. Local ISP will issue a receipt of purchase for the End Customer. All information about prices and the quality of services to be expected as well as potential rights of End Customers (e.g., right of withdrawal, dispute resolution) are published on Local ISP's website. Local ISP does not process or store any data related to payment process. Such data is handled by the companies handling the payment functionalities of the services (payment service providers).

Technical solution

Telekom Deutschland GmbH developed an IT infrastructure which ensures that the Connected Vehicle Features can be provided towards customers (hereinafter **Internet Platform**). The Internet Platform consists of several frontend and backend systems and provides various frontend and backend business processes.

The Internet Platform is developed, maintained and operated by Telekom Deutschland GmbH and its technical enablers. A "technical enabler" is a company that provides IT services, which are needed to operate the Internet Platform. All IT systems associated to the Internet Platform are located within the territory of Germany (e.g., servers). Consequently, all data storage will take place on servers located within the territory of Germany. Local ISP informs its End Customers about this fact in the privacy policy.

Local ISP has the right to use the Internet Platform in connection with the provision of the Internet Access Services. This right is manifested within the contract between Telekom Deutschland GmbH and Local ISP.

Data communication

The communication between the vehicle and the Internet Platform is realized via mobile radio networks. Therefore, the vehicle manufacturer installs a SIM card into the vehicle. The installation is performed during the vehicle production.

To manage the internet traffic between the vehicle and the Internet Platform appropriately Telekom Deutschland GmbH relies on dedicated Access Point Names (hereinafter **APN**). The internet traffic is routed to Germany. All communication is secured by appropriate technical measures.

All internet traffic is geo-localized and therefore, every internet session will be routed with local IP-addresses of the underlying country. As a result, End Customers will always have a home specific user experience, regardless of whether they are connected to a mobile network in their home country or are roaming from abroad.

If legally required, Local ISP has the possibility to restrict / filter the internet traffic. The filtering of internet traffic refers to the fact that some IP addresses might be blocked. Such measures are especially applied if Local ISP is legally obliged to prevent access to dedicated IP addresses / websites (e.g., pornography, online gambling).

In the case, that Connected Vehicle Features include WiFi-based Internet access (case 5), the Internet Platform communicates with the End Customers device via a WiFi router that is installed within the vehicle. The transfer of content to the End customers device in the vehicle is done with secure HTTPs protocol for all user specific data to ensure privacy and secure of critical information.

Data Storage

If required, Local ISP processes and stores various types of data. Reasons for this processing are either the technical enabling of the services or further legal obligations. Data is only used for these purposes and is not reused commercially. Local ISP does not process nor gather any mobile network location data, Cell IDs and/or GPS data. The Service merely roams with local mobile networks and uses third parties for transportation of data. However, records are kept on a session level in order to determine how much data volume has been consumed at which point of time by a customer account.

In the following we point out, what kind of data will be stored:

Customer data

- Title
- Last Name
- First name
- Street + No.
- Post code
- City
- Country
- Email address

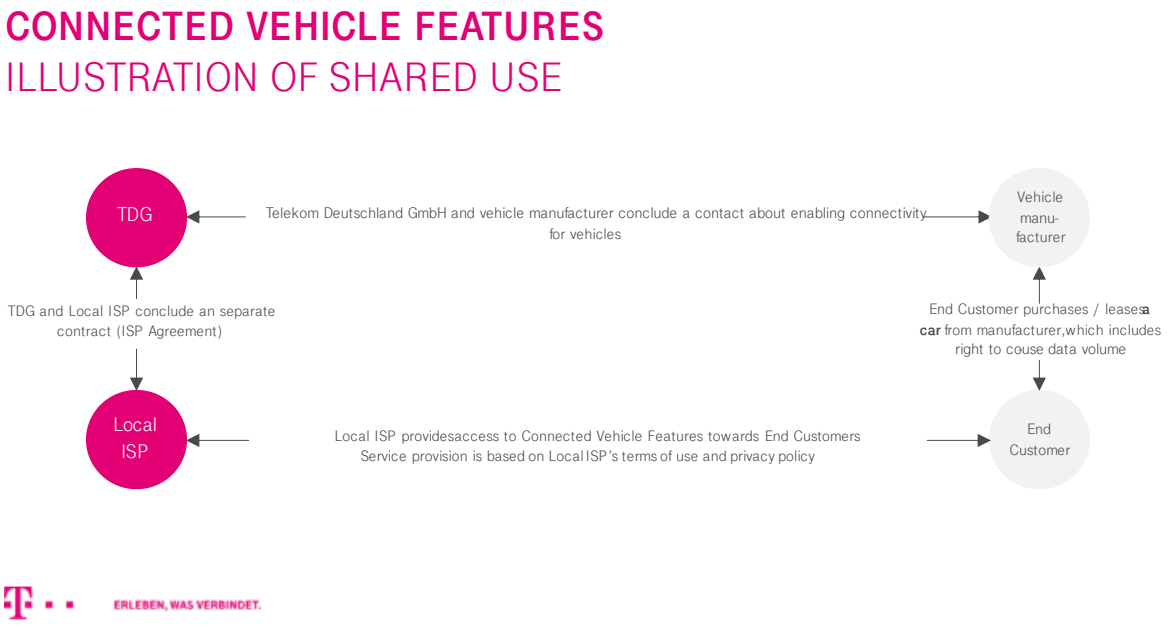
Traffic data

- IMSI
- MSISDN
- MCC
- MNC
- IP Address
- NAT IP Address
- NAT Port Range Start
- NAT Port Range End
- Start Time
- End Time
- Session Time
- Consumed data volume

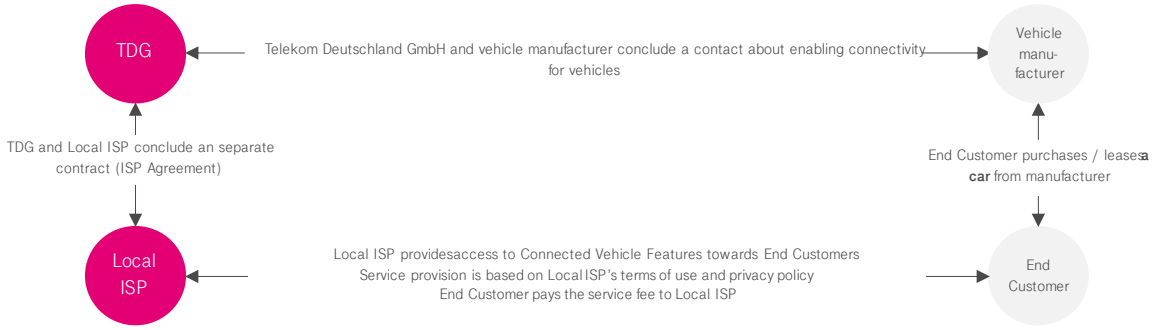
Annex

Illustration of contractual relationships

If you conclude that the provision of Connected Vehicle Features is subject to telecommunications regulation and telecommunications law, the following contractual chain can be installed (current setup).



CONNECTED VEHICLE FEATURES
ILLUSTRATION OF PURCHASE



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Involved parties and roles

Vehicle manufacturer	Telekom Deutschland GmbH	Local ISP	End Customer
Vehicle manufacturer produces a vehicle and sells or leases it to a person. As part of the production process, the company prepares vehicles for Connected Vehicle features. This means that SIM cards are installed in the vehicles and the necessary technical equipment is installed (e.g., the infotainment system or the WiFi router). During the period of vehicle operation, the vehicle manufacturer assumes the costs incurred for data consumption in the shared use scenario.	Telekom Deutschland GmbH is the contractual partner of the vehicle manufacturer to enable a data connection between the vehicles and the mobile networks. Telekom Deutschland GmbH provides the SIM card network profiles to the manufacturer. Telekom Deutschland GmbH handles all data traffic related to the Connected Vehicle Features. Telekom Deutschland GmbH operates the Internet Platform to enable the Connected Vehicle Features. Telekom does not provide the mobile communications infrastructure. Telekom does not have any contractual relationship with the End Customer	If you conclude that the provision of Connected Vehicle Features is affected by obligations stemming from telecommunication regulation, Local ISP assumes the role of the provider of the services to the End Customer. Local ISP will take over all responsibilities stemming of telecommunication regulation associated with providing access to Connected Vehicle Features. Local ISP will conclude a contract with Telekom Deutschland GmbH to use the Internet Platform for technical enabling the access to Connected Vehicle Features. Local ISP will conclude a contract with End Customer to regulate the provision of the services (access to Connected Vehicle Features).	End Customer is a person, who uses the Connected Vehicle Features in the car. In the Shared Use concept, there is a contractual relationship between End Customer and manufacturer, which grants the End Customer to right to couse the data connection in the car. If there is no shared use scenario, End Customers will purchase the access to the Connected Vehicle Features from Local ISP through Local ISP's website.