Continental
The Future in Motion

Connected by communication.

Involved through connectivity.

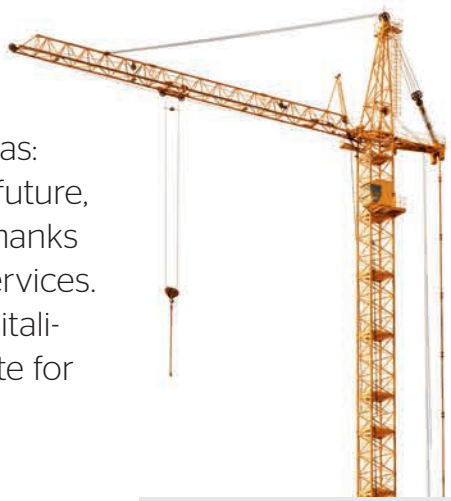
www.conti-engineering.com

Continental **Engineering** Services

Perfectly connected.
Tailor-made connectivity solutions for all areas.

New opportunities through holistic connectivity.

More efficiency,
more safety,
more comfort.



We will connect you and your application in many areas: the latest infotainment functions in the cockpit of the future, accident-free driving and an improved traffic flow all thanks to intelligent control and a seamless link to mobility services. Comprehensive interconnectivity is the key to the digitalization of mobility and at the same time the prerequisite for automated driving.

In order to be successfully usable, interconnected products must suit the urban digital lifestyle and must therefore be safe, intuitive and efficient to use. Equipped with the necessary sensors and software, they collect more and more data, share it among each other and send it to their environment.

This is reflected in the ever-increasing complexity of electronic architectures, an increasing real-time interconnectivity and in computer speeds that are growing exponentially. A rising number of comfort and safety functions underlines this trend and thus leads to an increased data interchange.

Our connectivity products facilitate, control and optimize this complex information flow at the interface between humans, machines and the Internet of Things. We achieve this through ultra-modern transmission technologies, which are particularly suitable for the safety-relevant applications of automated driving thanks to their strong performance. In addition to lower latency, a larger range and increased reliability, they also facilitate the connection to cloud services.

To ensure that you receive best-in-class user experience for small series, niche and special applications, Continental Engineering Services will develop and produce tailor-made connectivity solutions for the automotive industry as well as for numerous industrial applications.

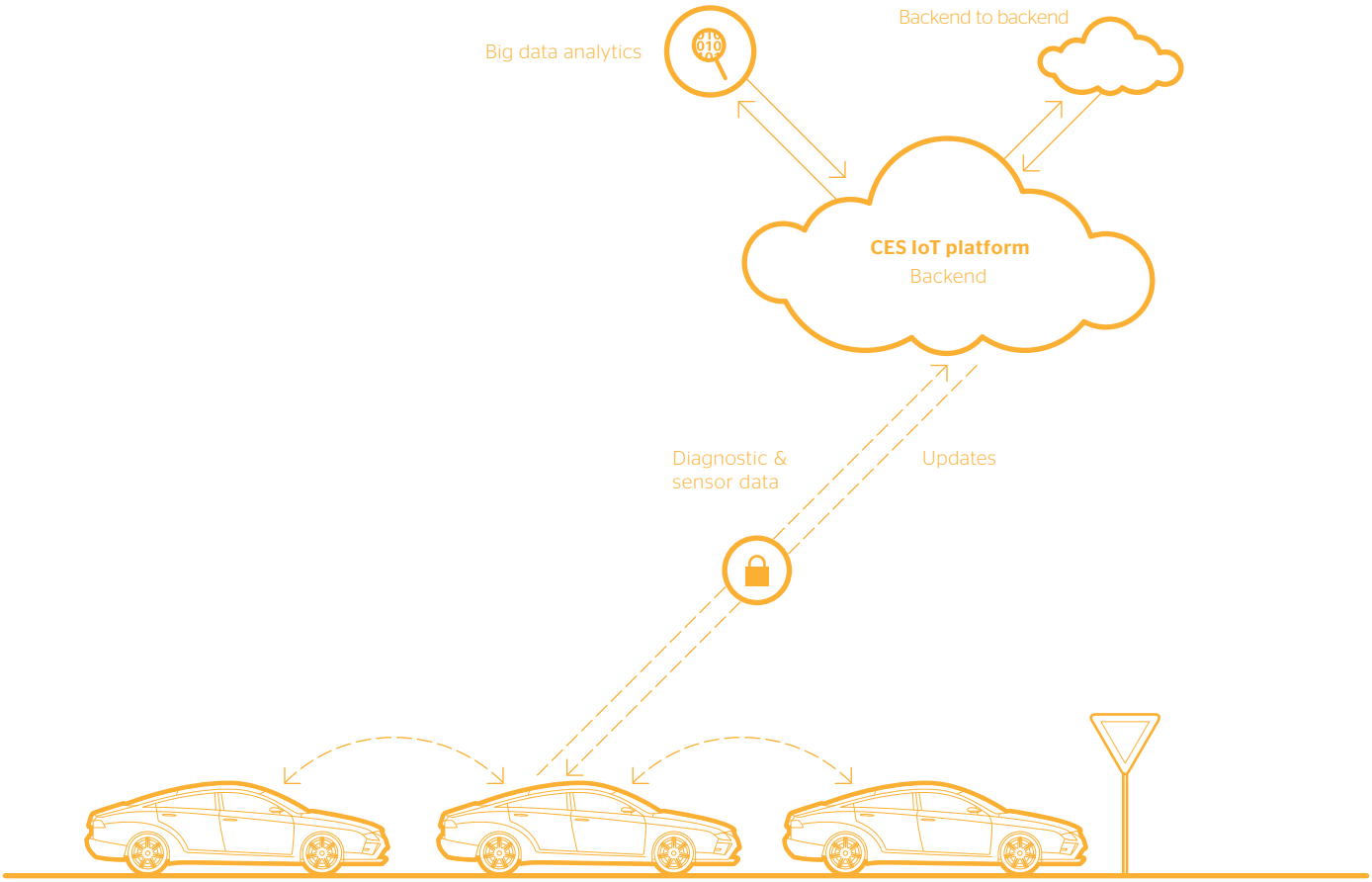
Continental Engineering Services

As an engineering service provider with a large amount of software expertise, and specialized knowledge in the field of embedded systems and cloud applications, we are your contact for connected solutions in the following fields:

- Backend services
- Big data
- Remote diagnostics
- Software over the air

Everything at a glance.
The CES IoT platform as a modern backend solution.

Where to put the massive quantities of data? For modern connected systems and functions, more and more data has to be recorded, forwarded and stored. The volume of data traffic is rising on a massive scale and leaves behind traces in the architectures. Do you want to add new functions to products while also making it easier to handle complex quantities of data?



Not only does the CES IoT platform help to control and optimize the complex information flow, it also acts as the interface between human, machine and the Internet of Things.

Continental Engineering Services can provide both by offering what is known as backend solutions where data volumes that increase exponentially can be moved into the backend, which the users cannot see. With the CES IoT platform, we offer a solution in the form of a scalable infrastructure based on microservices architectures.

This includes the services to operate, service and optimize these. Data can then be processed and evaluated more efficiently and systematically. We do this in compliance with all current requirements for real-time, functional safety and security and lay the foundation for the creation of new business ideas.

An example of a modern backend solution is ContiConnect. It gives fleet managers the opportunity to keep an eye on the tire performance of their entire fleet. The system uses wirelessly transfered sensorics data to provide the customer with the information on tire pressure and temperature.

Consequently, maintenance services can be initiated in a timely manner with less administrative effort than nowadays. Fleet mobility and its efficiency will increase while the total cost of ownership decreases.

Your advantages:

- Powerful backend
- Integrated device and account management
- Easy handling regarding telematics data
- Data can be handled by means of analysis tools
- Linux client and smartphone application available
- Scalable backend solution (useful load handling possible)
- Existing interface for dedicated access to the backend

What we do for you:

- Repairs and servicing
- Visualization of the data
- Remote diagnostics
- Firmware/software over the air (updates)
- End-to-end service solution concept

Know more – a consultancy service tailored to your individual needs.

How you can benefit from your own big data applications.

Imagine that you can systematically use your customers' user data for your own or new business models. You would then be able to better understand and guide your customers, identify new market trends in good time, accelerate working processes, develop products more efficiently or optimize your own products and services.

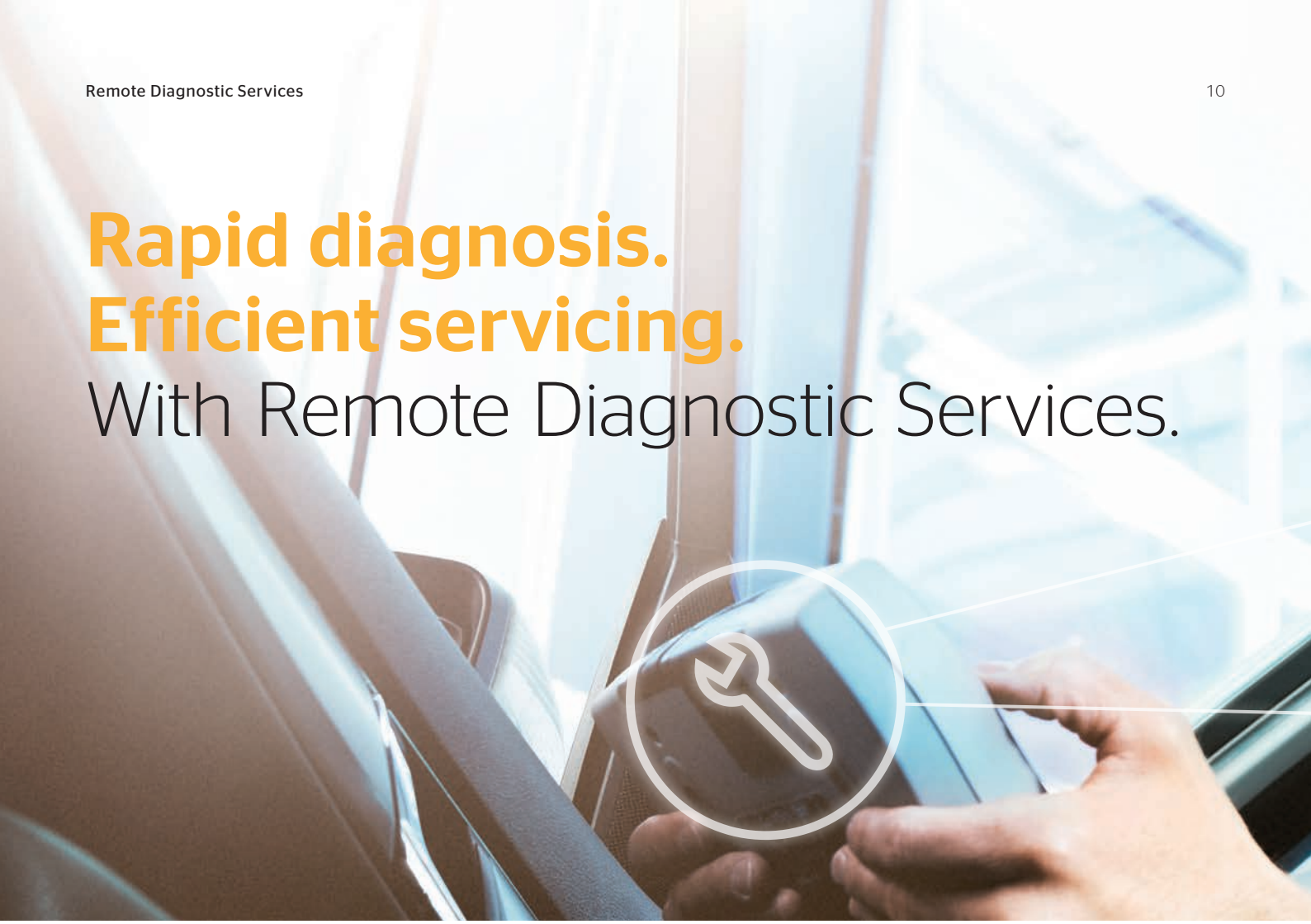
By using collected data, new services can be established.

We can act as your consultant as you create your own big data application. Benefit from our technical expertise, our experience in the field of software development, embedded systems, client-server structures, cloud applications and IT security.

- Development of cloud-based functions for consolidated, relevant data, e.g. for fleets or diagnostic purposes
- Using a high-performance analysis tool
- Designing and creating the right infrastructure for the data transfer
- Provision of Continental connectivity products and solutions

Your advantages:

- Identifying new business ideas/models
- Evaluating the user data leads to new findings regarding your own products and services
- Areas of potential optimization are highlighted
- Efficient development of new functions
- Defects are discovered and removed in good time



Rapid diagnosis. Efficient servicing. With Remote Diagnostic Services.

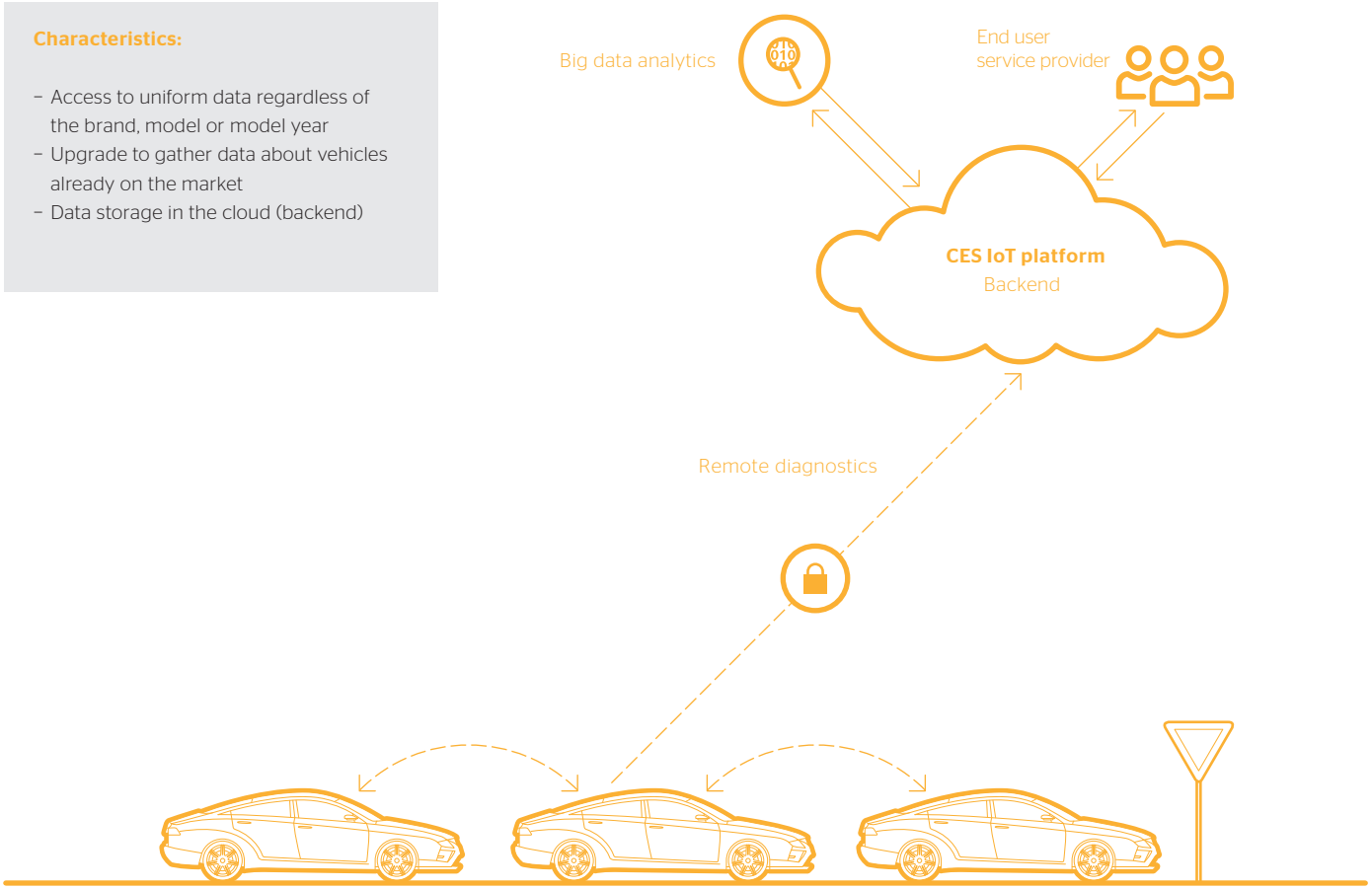
How can businesses care better for their own customers? For example, by keeping a permanent eye on their products that are used by the customer, by evaluating their condition or gaining insights into usage behavior. This means that technical problems can be diagnosed and solved in advance.

This requires communication between the products and the backend. This allows you to view the data about your products as evaluated in real time throughout the entire life cycle. Remote diagnostics increases the efficiency and reaction speed of auto repair shops, roadside assistance, commercial fleet operators, servicing companies or insurance firms. This benefits both you and your customers.

Continental Engineering Services makes all this possible. For Remote Diagnostic Services, we use technologies that facilitate a seamless and fault-free data transfer between the different wireless networks and a continuous monitoring of real-time data, in compliance with high safety standards.

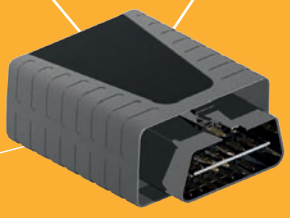
Characteristics:

- Access to uniform data regardless of the brand, model or model year
- Upgrade to gather data about vehicles already on the market
- Data storage in the cloud (backend)



Transform vehicle data into utilizable knowledge for Remote Diagnostic Services.

The heart of your connectivity solution: our telematics products.



OBD Dongle

The OBD Dongle is our basic telematics system. The Bluetooth® dongle records diagnostic data in order to transmit it to a connected device such as a smartphone or directly to the backend or the cloud for the purpose of analysis.

CUTE Telematics Box

The CUTE Telematics Box facilitates improved diagnostic functions and allows vehicles to be located. The stand-alone device can be placed in the vehicle interior.

Flex Telematics Gateway

The Flex Telematics Gateway facilitates a large number of telematics functions. It is equipped with internal sensors to monitor the driver's behavior and supports signals for determining the position.

Continental Engineering Services has been developing telematics modules for more than 10 years. For us, they are the central element in any tailor-made connectivity solution. They facilitate communication with other networks, vehicles and the cloud.

Numerous safety and comfort functions for the automatic emergency call, remote diagnostics, software updates, cloud-based navigation, vehicle search or anti-theft protection can thus be created. Up to today, these solutions have been used in a large number of connected cars. Depending on the required function, they are scalable and support the safe processing and saving of millions of data streams in real time.

Intelligent Antenna

The intelligent antenna is the interface between the vehicle and its environment. As a central multi-antenna access point, this module allows information to be accepted and shared.

Performance Gateway

With the use of this product we offer hardware and software support for all connected applications, vehicle busses, multiple displays and audio and camera applications. With this platform we can create customized connected interior domain controller solutions.

Secure Ethernet Gateway

This is our central control module for vehicle data network management. The transfer of data between various vehicle domain bus systems and the processing of a great number of data from several systems are its main characteristics.

Naturally, we also develop telematics solutions adapted to your special needs, with dedicated hardware and software.


Video
Music
Radio
Podcast
Favorites
Internet
FM FM
AM AM
Favorites
History
Search
Radio Galaxy
FM 102.1
CLUB ATTACK
123 The Beat FM
Rhythm'n'Blues Radio Station
FM 89.1
Classic Concert Radio
FM 104.7
Navigation
Media
Climate
Car
Communication
Apps
App Store
Settings

Always up to date.
Software updates over the air.

Do you want to provide your customers with the latest software updates at all time?
Do you want to give them the feeling that you are always there for them?

Today's vehicles contain up to 100 processing units and software with millions of lines of code. Up to now, keeping this digital network up to date or installing new functions normally meant a visit to a repair shop. Since more and more vehicles are being digitalized this is becoming increasingly superfluous. For this purpose, we provide a convenient and safe solution for vehicles, enabling timely updates via an over-the-air interface.

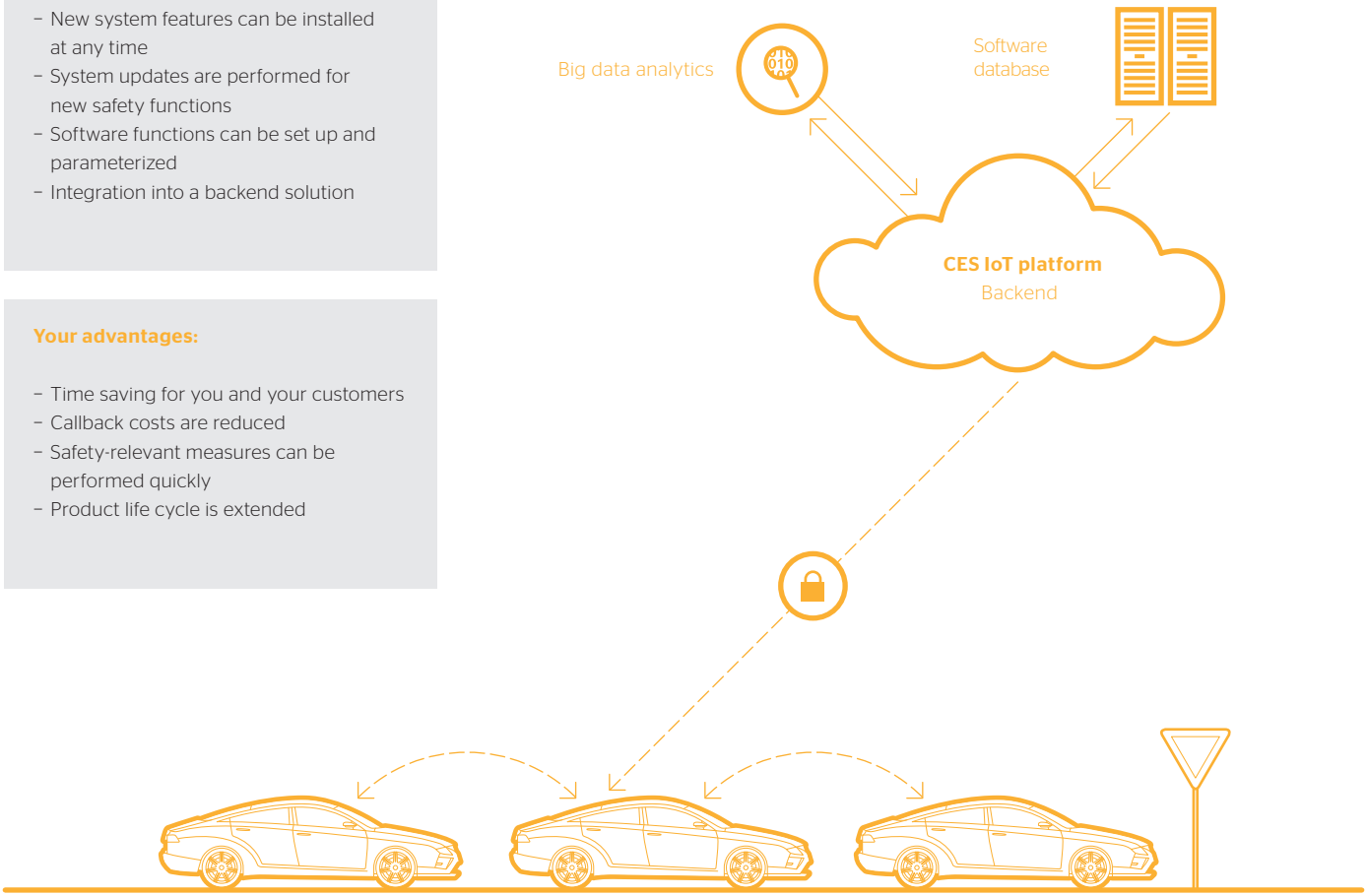
With the help of our connectivity products such as our Flex Telematics Gateway or our Secure Ethernet Gateway, we always keep the software in electronic control units up to date, configure settings and install new functions, no matter what stage the product is at in its life cycle. Beside the use of additional and improved functions, visits to repair shops and the ensuing costs can be reduced and safety gaps closed in this way. And with ultimate convenience – over the air.

Characteristics:

- Rapid updates
- New system features can be installed at any time
- System updates are performed for new safety functions
- Software functions can be set up and parameterized
- Integration into a backend solution

Your advantages:

- Time saving for you and your customers
- Callback costs are reduced
- Safety-relevant measures can be performed quickly
- Product life cycle is extended



Providing updates from anywhere in the world for the entire vehicle software via an over-the-air interface.

Securely protected against cyber attacks.

With us, you'll always be on the safe side.

Holistic connectivity is the key to automated vehicles. However, new functions such as wireless updates of vehicle electronics are not free from risks, particularly when data is being transferred between the vehicle and its environment.

With the rising level of connectivity and an increasing number of interfaces in vehicles and machines, the issue of cyber security is becoming increasingly important. The more data is exchanged in the future, the higher the risk of cyber attacks.

This is why we use the highest security standards in our connectivity solutions here at Continental Engineering Services.

These provide safety precautions at several levels. At the first level, individual electronic systems are protected; the second level protects communication between the systems in the vehicle; the third level protects all external interfaces; at the fourth level, cloud and backend solutions protect data processing outside the vehicle from theft and manipulation.

Characteristics:

- Embedded cryptographic architecture
- Stack protection and kernel hardening technologies
- Hardware sandboxing and virtualization
- Checking the origin of the software
- Live monitoring of the applications in the backend
- Safe authentication and allocation of authorizations within encrypted connections between integrated components and the backend

Your advantages:

- Minimizes risk in the event of warranty claims
- Minimizing ensuing costs after cyber attacks
- Complies with statutory regulations for the transmission of security-relevant data

Protection at 4 levels

1 Individual electronic systems
2 Communication between the systems in the vehicle
3 All external interfaces
4 Data processing outside the vehicle

Driving with anticipation.
Connectivity perfectly implemented – the Connected eHorizon.

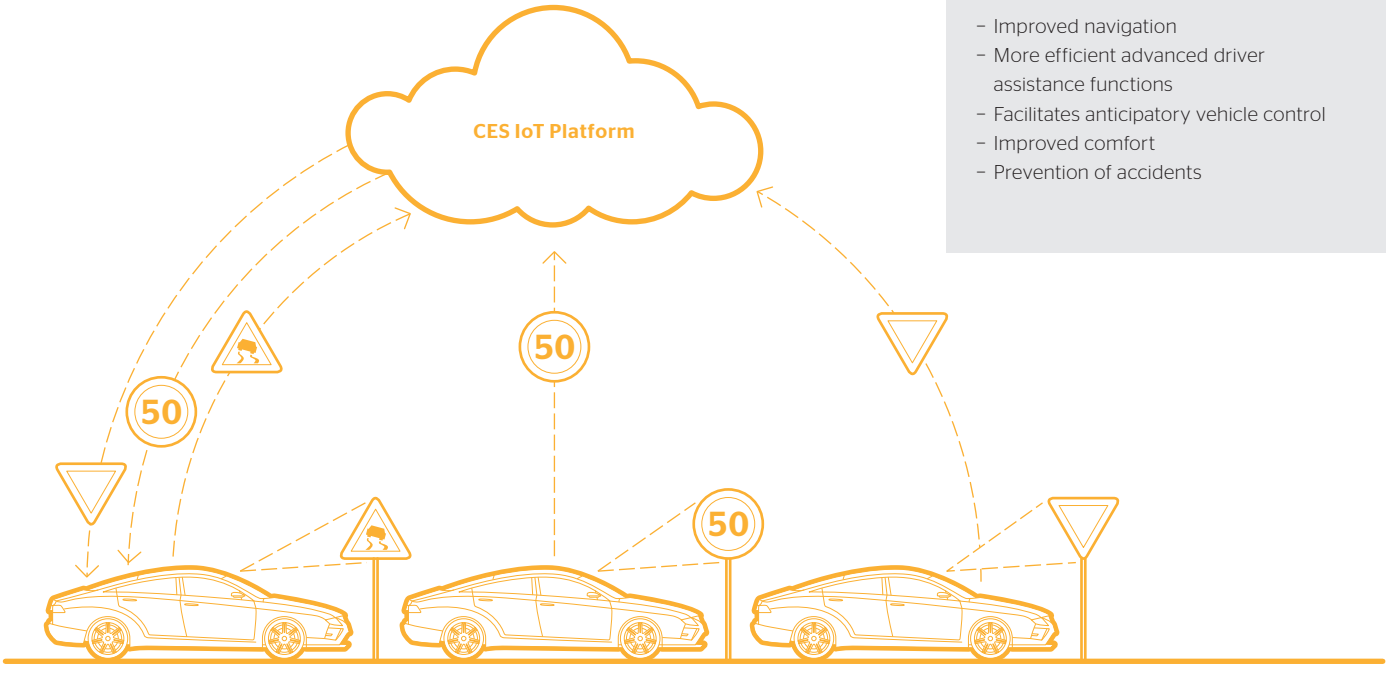
Holistic connectivity and knowing up-to-date data about the topography, navigation, traffic and weather is a prerequisite for assisted and autonomous driving as well as creating new mobility services. This is why Continental has developed the eHorizon.

With this intelligent IT solution, we demonstrate how a vehicle can pass on important traffic information to the cloud and to other road users by means of connectivity and a crowd-sourcing function in the driver assistance camera.

This information is used to provide warnings about obstacles and potholes in present time, to issue speed recommendations, to adapt speed and transmission management to the route in an energy-efficient manner or to initiate the handover of vehicle control to the driver during automated driving.

With eHorizon, we gain new valuable findings every day. You can benefit from this when developing every connectivity solution that has been tailor-made for you.

Beside this we develop single components of such a solution. For example, our software product “Online Friction Estimation”, which allows to transmit information on road conditions to the cloud.



Your advantages:

- Improved navigation
- More efficient advanced driver assistance functions
- Facilitates anticipatory vehicle control
- Improved comfort
- Prevention of accidents

A decisive factor for the success of numerous mobility services: The better the vehicle and machines know their environment, the safer, more efficient and more user-friendly they are on the road.

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