Electronic Vehicle Identification

The solution for more security in vehicle license plates, identification and authentication.

UTSCH

Worldwide...

... the number of vehicles on the streets increases constantly. Vehicle theft grows rapidly, too.

Cases of arbitrary registration, and therefore tax offences, accumulate. Recognition and reliable identification of both the vehicles and the drivers are required. Not only for supervisory departments and administrative services of state organs, but also for daily traffic incidents, for example in case of accidents and insurance related matters.

As the international specialist of innovative vehicle registration systems, UTSCH is developing unique concepts that address the increasing needs of higher security.

To confront these issues, UTSCH has designed RFID-based solutions:

■ the RFID windshield label (**label**) and
■ the RFID license plate frame (**frame**).

Radio Frequency Identification (RFID).

Radio-frequency identification (RFID) is the use of an object (typically referred to as an RFID tag) applied to or incorporated into a product for the purpose of identification and tracking using radio waves.

Some tags can be read from several metres. Radiofrequency identification comprises interrogators (also known as readers), and tags (also known as labels).

Most RFID tags contain at least two parts. One is an integrated circuit for storing and processing information, modulating and demodulating a radio-frequency (RF) signal and other specialized functions. The second is an antenna for receiving and transmitting the signal.

The main advantage: RFID enhances the security of vehicle identification on top of high security license plates.

RFID solutions by UTSCH: technical features.

The state of the art design of the UTSCH RFID solutions offers the opportunity to use different types of passive RFID technologies or even a combination of it. The RFID inlay is an integrated part of every RFID-based product from UTSCH.

		HF / NFC	UHF
Standard	HF	ISO 15693 / ISO 14443	EPC Class1 Gen2
	NFC	ISO 18092 / ECMA 340	ISO / IEC 18000
Frequency		13.56 Mhz	860 - 960 Mhz
Main characteristics		short-range technology, readable with NFC-enabled smartphones	long-range readability, vehicle identification also in moving traffic

Intelligent RFID solutions by UTSCH.

ⓤlabel - the intelligent windshield label.

The ⓤlabel is a RFID windshield label and offers the possibility to store data electronically and print vehicle related information on it. It serves as a third license plate.

Its core benefit is the additional optical authenticity confirmation of the outer number plate.

A use of counterfeited or stolen license plates is useless without the corresponding intelligent license tag. For all applications which

Security features against counterfeiting.

A variety of visible and hidden printed security features gives the windshield label a very high security standard.

Guilloche print

Microtext

SI EU 123
VIN 1234567890

UV color

Hologram foil

Security feature against manipulation.

A transfer of an already fixed label to another vehicle is virtually impossible due to the self destructible holographic layer and security die-cuttings at the edges.

The printed information, the holographic structure and the label itself will be destroyed.

ⓤframe - the intelligent license plate frame.

The ⓤframe is the tried and tested UTSCH license plate frame ERUSTAR, supplemented by an RFID-transponder invisibly incorporated in its internal structure.

This allows the application of RFID technology on a large scale without changing or customizing already existing national license plate standards. Embedded in a non-metallic environment, the ⓤframe-transponder offers a high performance.

Applications

Electronic ticket generation and vehicle identification

The vehicle data will be read and compared with the actual vehicle. In case of a traffic violation, a ticket can be printed directly.

For more information (vehicle or owner), the officer sends the code number to the trust center and receives the respective data, according to their level of authorization.
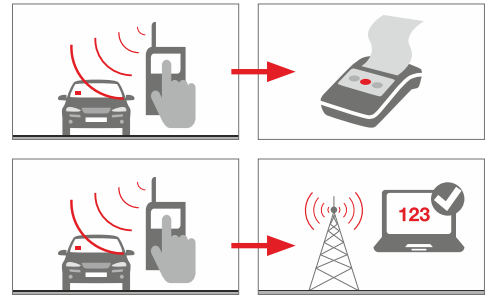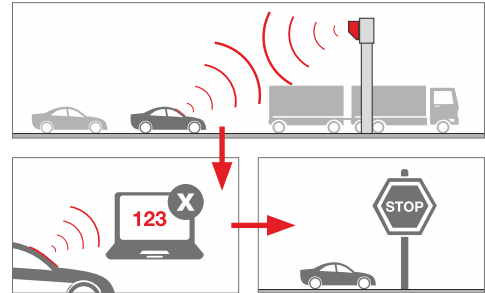
Automated vehicle identification

On passing a checkpoint the code number will be transferred to the trust center or computer.

The code number will be checked.

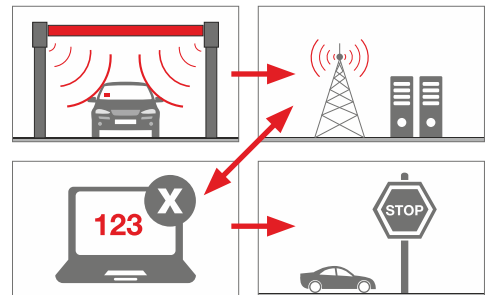Marked vehicles can be stopped and checked in detail.

Border control

The code number will be checked and the corresponding data set transferred to the border office.
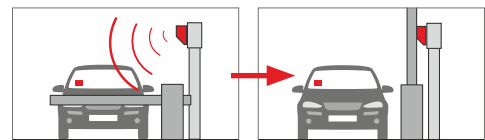
The operation will be recorded.

The vehicle will be checked and the result transferred to the trust center.

Access control

The authorization will be checked and a signal with the code number sent to the barrier.

Traffic management

Measuring points with traffic information panels transfer the code number to the traffic management office.

Data can be used for active traffic management, e.g. speed regulation subject to the traffic density.
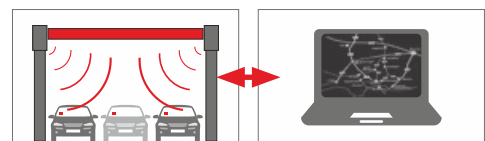
Technical inspection

The code number will be transferred to the trust center.

The respective data set displayed on the screen will be updated after the inspection and be available to all authorities concerned.