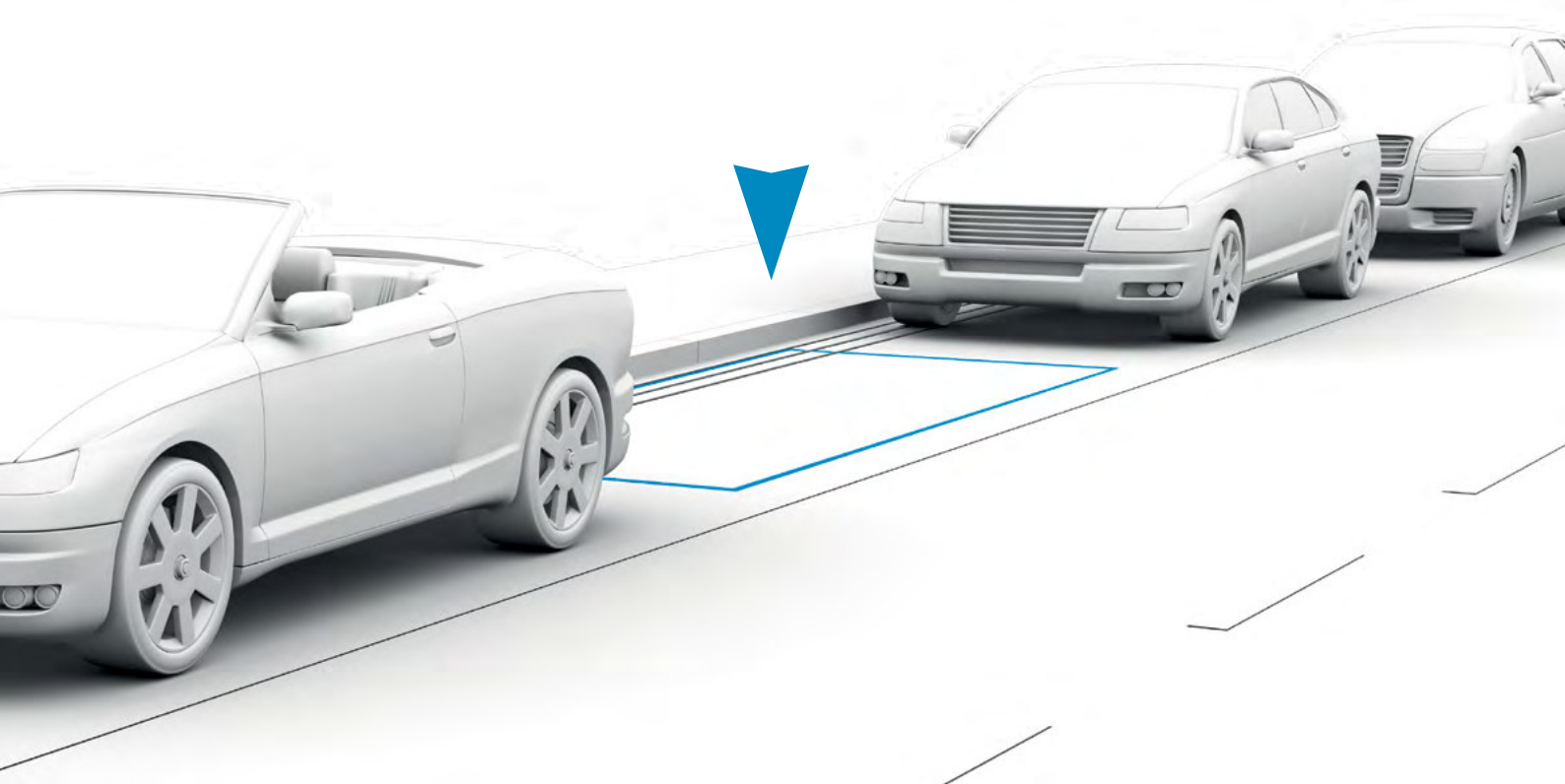# PARK HERE

The first self-powered
parking sensor.

Smart Parking
The first step to a smart citiy.

Today city dwellers are confronted with huge problems, which affect their quality of life. Traffic jams caused by car drivers looking for a free parking space, increase the pollution of fine dust and noise. Parking revenues make up to the third highest incomes for cities. According to a study made by Navigant Research, 40% of the parking income gets lost due to the fact that parking management is inefficient.
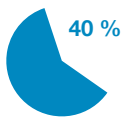
40 % — Cruising for parking makes up 30 - 40% of the overall traffic in inner cities.

15 min — On average it takes 10 - 15 minutes to find a parking space in cities.

1.3 Kg — On top of the cost generated and revenue loss, each travel to find a parking lot releases 1.3 kilogram CO_2 to the air.

4.5 Km — The average travelled distance to find an unoccupied parking spot is 4.5 kilometers.
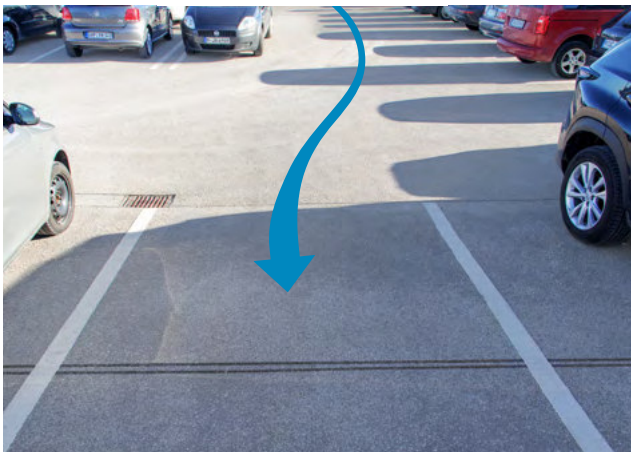
Parking sensors and real time data

1. Our sensor detects vacant parking spaces and sends the information to our server.

2. These information can be sent to navigation services, apps, OEMs, cities and many more.

3. This system simplifies and optimises the search for free parking spaces. Obviously drivers are not the only ones who benefit from the real-time parking data; enhanced traffic flow, cleaner air, lower enforcement costs and a precious support to retail business.


4. Once received, the data are analysed and predictions about future occupancy can be made. Consequently, the efficiency of the parking spaces will be enhanced.

Self-powered sensors

ParkHere sensors neither need batteries nor external power supply.

The sensor produces its energy by Energy Harvesting. The weight of the parking car is used to power a Micro Generator, which sends its information via mobile radio to our servers. For installation, the sensor gets embedded into the ground. The sensor can be easily installed in any type of road pavement by using the existing lane marking marchinery. As a result, costs for installation and service are drastically reduced.
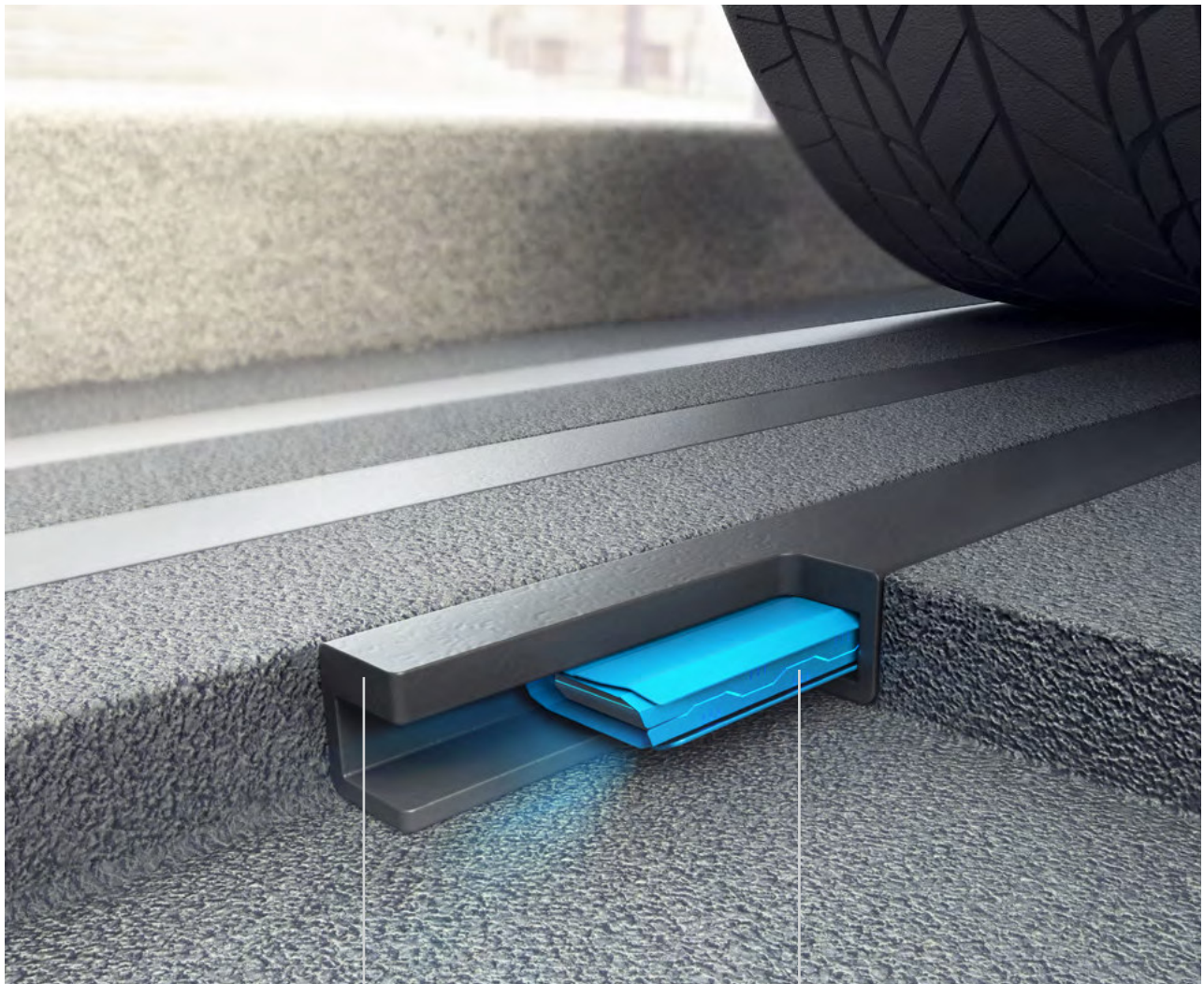
resilient, low maintenance   self-powered sensor

Real implementation

Angled parking

The sensor is installed in the middle of the parking space and determines every parking process.

Parking garage and Park & Ride

In place of expensive park barriers, parking garage or Park & Ride operators can use the sensor technology to digitalise the occupancy rate of their facilities and optimise their efficiency. The sensors are installed at the entrance and exit of the parking facility in order to count the number of cars driving in and out.

Parallel parking

For parallel parking, three sensors will be installed near the curb, in a way that the front and back tyre are placed on the sensor. As a result, the vacant parking space and its size can be determined and optimally used.

Installation

The sensors can be easily installed in any type of road pavement by using the existing lane marking machinery in less than 15 minutes without the need for regular maintenance.

To reach a seamless surface, about 18 millimeters of the pavement get cut and the sensors will be solidly embedded into the ground. In this way, even the winter maintenance could not damage the sensors.

Signal transmission

The sensors are able to send signals to the *Base Station*, which should be located in range of 250 meters. The *Base Station* can run on solar power or electricity and could be mounted on street lamps, on nearby buildings or in EV charging stations. It uses *GPRS* connection to transmit the data to *PartkHere's* cloud server.

Real time data processing

Navigation service providers, OEMs, urban planning bureaus, apps and other interested businesses will have licensed access to *ParkHere Server* and are able to customize their own services.