

# Smart parking information and management system for cities and commercial car parks

## Company: Parkanizer

### What was the challenge?

#### Starting with public parking spots

Drivers cruising for parking place generate almost 30% of traffic in popular city districts. They waste time, fuel and money, and their cars are an important source of smog, which is a huge issue in Polish cities.

The challenge picked up by Parkanizer was to reduce the need for cruising for parking by developing an efficient parking information system that shows the drivers free parking spots.

They came up with an idea based on the Internet of Things network. Special connected sensors were installed on each parking spot in five Polish cities that participated in the pilot programme. The sensors provided information for the mobile app that shows the drivers the availability of each parking spot in real-time, so they can make an informed decision about where to head to for a vacant parking spot.

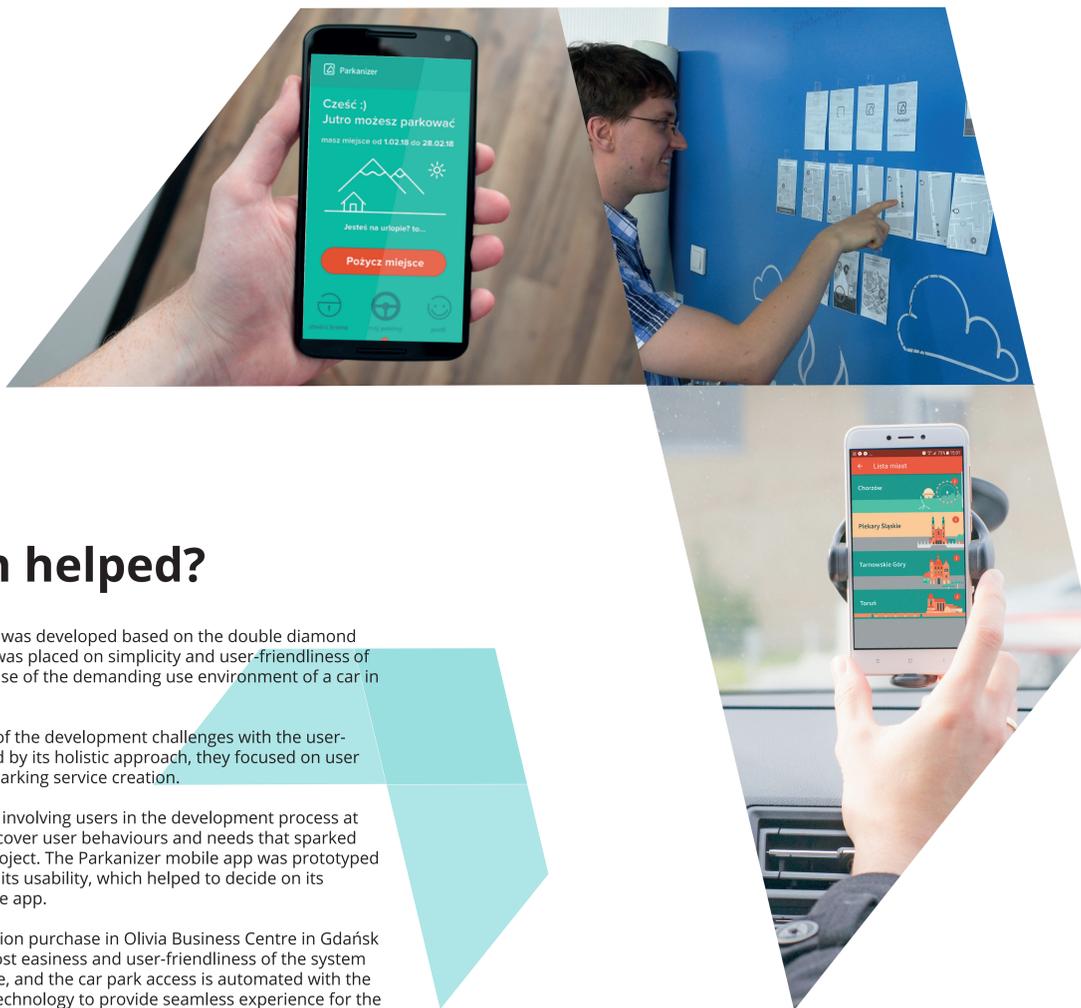
In Tarnowskie Góry (one of the pilot cities) the system was also used to support the introduction of a Short Term Parking Zone in the city centre to stimulate rotation and increase the availability of local shops and services. Here, the mobile app shows drivers where they will find a parking spot fast and informs them when their parking time is coming to an end. The other user group of Parkanizer Analytics solution in Tarnowskie Góry is traffic enforcement officers. The app helps them to control the parking limit time.

#### Assessing the untapped potential of office buildings' parking spots

Parkanizer also looked deeper into the city mobility and discovered that the office car parks spaces are inefficiently utilised - up to 35% of them stay vacant every day even though companies lease them all. At the same time, many drivers waste over 5 minutes daily to search for a parking spot and often park the cars in the places that are not suitable for this purpose.

The issue behind empty parking spots is an information gap between the drivers entitled to enter the office car park who are on sick leave, vacations or out of office and the rest of drivers in the company, who do not get neither information, nor a car park access in that situation.

To address that challenge, Parkanizer decided to maximise the number of drivers that can effectively use existing car parks, by developing the Parkanizer Share service and mobile app that enables co-workers to share their parking spot to a colleague for the time of their absence or when they do not use the car. The solution's effectiveness is boosted by machine learning. The first version of smart parking Parkanizer solution for offices was introduced in 2017 in Olivia Business Centre in Gdańsk.



### How design helped?

Parkanizer smart parking service was developed based on the double diamond methodology. Special emphasis was placed on simplicity and user-friendliness of the mobile app for drivers, because of the demanding use environment of a car in motion.

Parkanizer team approached all of the development challenges with the user-centred design methods. Inspired by its holistic approach, they focused on user journeys in all aspects of digital parking service creation.

By conducting user research and involving users in the development process at each stage, they were able to discover user behaviours and needs that sparked innovation and changes in the project. The Parkanizer mobile app was prototyped and tested in-car with drivers for its usability, which helped to decide on its functionalities and redesign of the app.

In addition, the parking subscription purchase in Olivia Business Centre in Gdańsk was designed and iterated to boost easiness and user-friendliness of the system - all transactions are done on-line, and the car park access is automated with the use of license plate recognition technology to provide seamless experience for the driver.

In Tarnowskie Góry, the team conducted ethnographic interviews with traffic enforcement officers and tested prototypes of Parkanizer Analytics with them, which helped to focus on the most important functionalities and made the tool perfectly fitting their needs.

The service is continuously improved through regular user satisfaction tests and questionnaires.



267% more users

### What is the impact?

In Tarnowskie Góry, where Parkanizer has helped the city to introduce a Short Term Parking Zone, the number of drivers that park there monthly grew by 267%. The average time of parking was reduced almost five times, from 4h 3m to 55m. The small business owners are very happy with the effects of the Short Time Parking Zone on their revenue.

The impact of Parkanizer app for office buildings' car parks is also significant. The solution adopted in Gdańsk has minimised the operational formalities linked to managing the car park on the Olivia Business Centre and has made the parking experience more user-friendly. It has helped effectively grant access to the maximum number of drivers. By doing so, it has both maximised revenues and solved the parking problem of more people working in the Centre. Thanks to Parkanizer and its algorithms, 22% more drivers can use the car park compared to the traditional car park solution.

The service's success is also reflected in the user feedback - 88% of Parkanizer's customers would recommend it to a friend and the app received an average rating of 6,5 out of 7 stars.

Business and design experts recognized Parkanizer's innovativeness by awarding the company with New@Poland distinction for an innovative IT solution for public sector and Śląska Rzecz (Silesian Icon) title for the best-designed service in 2016, among others.

**Design4Innovation partner: Marshal's Office Silesian Voivodeship**  
**Country: Poland / Silesia**



European Union  
European Regional  
Development Fund