



**SEA**

INNOVATIONS  
& EFFICIENCY

# Parking equipment and systems of SEA Company



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Parking equipment



Parking systems



Centralized network of paid parking



User mobile app  
SEA Parking

Mobile app  
Parking Inspector



Automated parking payment control system (APPCS)



Modernization and maintenance of parking lots

# Parking pay stations



SEA company manufactures machines for parking payment, using a modular system of configuration within the most suitable type of cabinet. All models of automated multi-space parking pay terminals include a GSM radio channel module and a contactless parking cards reader.

*Mobile applications of drivers and service personnel provide the APPCS interface for easy navigation in the parking area, carrying out and control of payments for various services.*

Parking meters  
with exact fare only



CEA AΠ  
100.04

PM1

PM2

Parking meter  
that issue change



PM3

# Parking meters with exact fare only



«**SEA AP 100.04**» – Payment for parking is made by banknotes. In addition, special parking cards can be used. The parking meter issues checks on thermal paper.

«**PM1**» – Payment for parking is made by banknotes and special parking cards. The parking meter issues checks on thermal paper, is equipped with a 7" touch screen display, bills receiver and contactless parking cards reader.

«**PM2**» – Payment for parking is made by bank cards only. In addition, special parking cards can be used. The parking meter issues checks on thermal paper. The parking meter is equipped with a 10.4" touch screen display, contactless parking cards reader, vandal proof PIN-keyboard with a banking cards reader. Parking meters have a climate control system that ensures reliable operation in a wide range of temperatures and in conditions of high humidity and dustiness.

*Applications include usage as sidewalk parking meter pay stations as well as payment terminals of the automatic and semi-automatic parking lots.*



**CEA AP  
100.04**



**PM1**



**PM2**

**These models can work with recharging of batteries from solar panels up to 9 months (from spring to autumn) and up to 1 month in winter.**

# Parking meter giving change



«PM3» – Payment for parking is made by bank notes and cards. In addition, special parking cards can be used. The parking meter issues checks on thermal paper. Parking meter gives change in two (or 4) denominations of notes and is equipped with a 12.1" touch screen display, bills receiver, banknotes and coin dispenser, vandal proof PIN-keyboard with banking cards reader, bar code scanner.

*These model are used mostly as payment terminals of the automatic and semi-automatic parking complexes.*



PM3

# Entry, exit and transfer terminals



The main elements of parking entry and exit points are the terminals that control the barriers and other devices of the parking system.

SEA company manufactures entry, exit and transfer stations with varied equipment sets for all types of automated parking facilities:

- one-level and multi-level terminals
- terminals built into operator's booth (semi-automatic parking)
- on parking cards of multiple validity, soft paper checks or hard coupons
- with E-Marine or Mifare card reader
- with "driver-operator" intercoms
- with cameras taking driver photos, etc.

Two-level terminals are ideally suited for the organization of automatic and semi-automatic parkings at airports, bus and railway stations, as well as parking lots for vehicles of various types and dimensions.

Transfer terminals are used to control movements from one parking area to another without leaving the parking lot at multi-zone one-level and multi-level parking lots where it is required.



# One-level entry and exit terminals for automatic and semi-automatic parking



Model	Description and equipment
<b>PT21IGM-110100</b>	parking entry terminal, graphic indicator, paper check printer, Mifare card reader, without photo fixation tools, without intercom
<b>PT21IGM-110111</b>	parking entry terminal, monochrome graphic display, paper check printer, Mifare card reader, photo fixation tools, intercom
<b>PT21IGM-130111</b>	parking entry terminal, graphic indicator, Mifare card reader, photo fixation tools, intercom
<b>PT21IGM-210111</b>	parking entry terminal, monochrome graphic display , paper check printer, Em-Marine card reader, photo fixation tools, intercom
<b>PT21IGM-230111</b>	parking entry terminal, Em-Marine card reader, Mifare cards dispenser, photo fixation tools, intercom
<b>PT21OGM-230110</b>	parking exit terminal, Em-Marine card reader, Mifare cards validator, photo fixation tools, without intercom



# Parking lot information boards



Parking system software counts vacant spots and simultaneously adjusts indication data on displays.

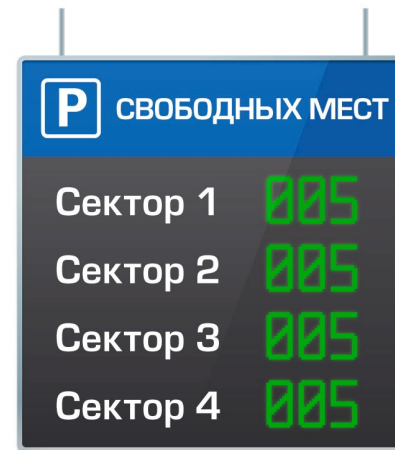
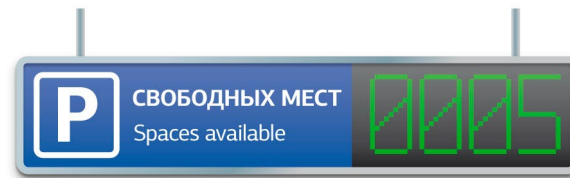
## Parking space availability signs

Can be used as (horizontal or vertical) LED displays with the number of vacant parking spots in outdoor parking complexes (on the street), as well as inter-level boards, which are installed between the storeys of indoor multi-level parking garages.

## Inter-level single-row / multiline displays

Are installed above ramps leading to upper / lower floors of indoor multi-storey car parks and can also be used as space availability LED signs on the territory of open-space parking lots that are composed of several parking sectors.

Standard SEA™ inter-level displays are classified by the number of rows and include single- / double- / three- / four-row information boards.



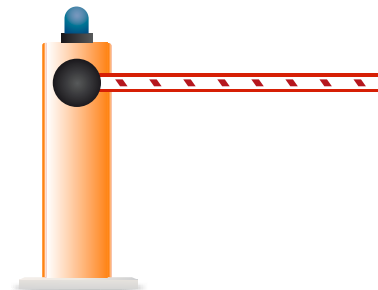


# Optional equipment



## Barriers for entry and exit terminals from various manufacturers.

The barriers are a part of the parking terminals and are controlled by entry / exit stations or by a parking operator. The choice of the barrier depends on the intensity of the traffic flow, the location of the parking (open, enclosed, multi-level, underground), the width and height of the passages.



## Traffic lights for entry and exit terminals.

SEA company offers modern energy-efficient LED traffic lights of own production, the use of which increases traffic safety in the parking lot. SEA traffic light is supplied with a power cable and a mounting bracket (standard height of 2.2 meters), which can be selected individually at the request of the client.



## Other equipment on customer's request.

SEA company's specialists, if necessary, will pick out high-quality additional equipment for your parking (for example, loops, video recognition cameras, controllers, etc.).



# Parking systems



Parking spaces on the side of the street



Semi-automatic parking systems with parking operator



Automatic parking systems

# On-street parking lots



Municipal and private car parks can be organized along roadways to collect payment for parking space usage.

Payment for parking services is made by the driver through the automatic parking pay machine of the SEA AP 100 series which issues a parking ticket (fiscal check). The driver places a parking ticket under the windshield of their car in a conspicuous place.

Payment control is carried out in accordance with the law by maintenance personnel.

Monitoring of a roadside parking or a group of such parking lots is performed remotely by operators and administrators via a convenient web interface.

SEA™ on-street parking lots consist of hardware (parking meters and system server) and software (server software and client web interface).

*There's a possibility to integrate other mobile apps, chat bots and intelligent parking navigation systems into SEA parking software.*



# Automated parking payment control system (APPCS) software

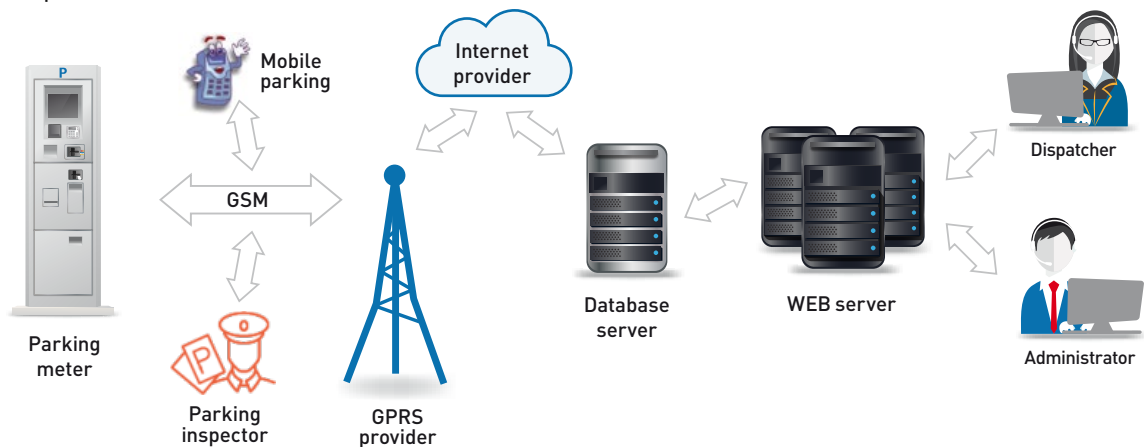


Payment terminals of automatic parking complexes and parking meters that are part of roadside parking lots may be integrated into a general wireless system of unified city parking space which allows remote monitoring of equipment in real time mode.

APPCS is designed by SEA for automation of parking payment processes, monitoring and dispatch of parking meters, control of payments and fines, generation of financial and other statistical reports.

We recommend this system for legal entities, owners, tenants, co-owners of parking services and complexes, vehicle drivers and parking system maintenance personnel: inspectors, dispatchers and operators.

SEA APPCS web-portal is a software product that allows you to monitor technical and accounting data, obtain operational information about all parking meters which belong to groups, parking lots or are located separately. Its menu is divided into five subsections: Parking meters, Parking lots, Administration, Accounting and Mobile inspector.



# APPCS mobile applications



## SEA Parking\* app for drivers

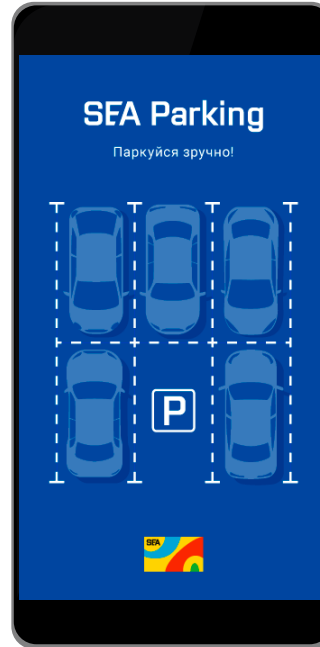
For easy navigation in and information updates about parking areas, as well as making cashless payments for the provided services using a device running the Android or iOS operating system.

\* available for download on the Play Market and App Store

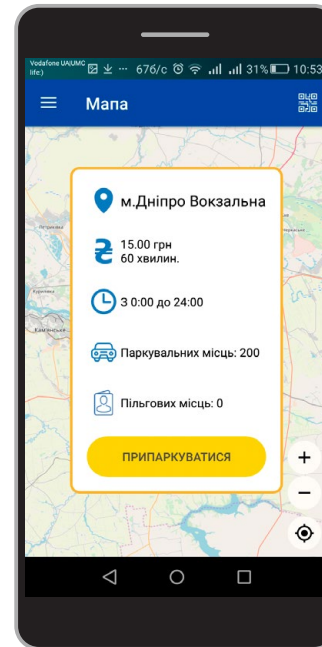
## Parking Inspector\*\* app

To control parking lot usage inspectors verify payment transactions of drivers using a smartphone / tablet / special device with a photo fixation ability (of license plates).

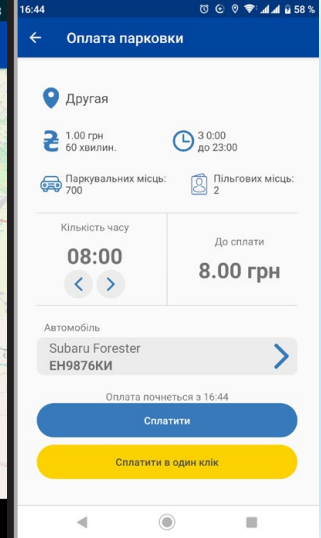
\*\* available for download at the official site of SEA Company



Loading screen



Map screen



Payment screen

# Semi-automatic parking systems



Semi-automatic parking on soft paper checks or on hard coupons allows one-time visitors with checks / coupons to enter the parking zone. The parking fee is calculated with cash register by the operator (whose booth is located at the exit of the parking lot) after all client information was scanned (through the bar code on the check / ticket).

Semi-automatic parking on reusable parking cards allows one-time visitors to be parked in the parking zone using reusable parking cards and contactless service / subscription cards. Departure from the parking zone is carried out through the operator after the card information was decoded by the card reader and the cost of parking services was paid for.

## Additional features and options of semi-automatic parking:

- entry / exit by scanning the radio tags (optional)
- photographic images of the driver
- communication line between the driver and the parking operator using the intercom system (optional)
- system of dynamic navigation and informing drivers about the number and location of vacant parking spots



# Composition of a semi-automatic parking complex



## Inbound terminal:

- parking entry terminal;
- barrier with inductive and optical sensors;
- UPS (up to 20 min);
- LED-based parking sign about vacant parking spots (optional);
- LED traffic light (optional);
- photo fixation tools (optional).



*Entry terminal on one-time paper parking checks and service cards*

## Parking operator terminal:

- PC (server);
- WEB camera;
- cash register;
- handheld barcode scanner;
- handheld or wall-mounted card reader;
- UPS (up to 20 min.).



*Parking operator terminal*

## Outbound terminal:

- barrier with inductive and optical sensors;
- UPS (up to 20 min);
- LED traffic light (optional);
- photo fixation tools (optional);
- RFID scanning devices.



*Exit terminal on reusable parking cards and service cards*

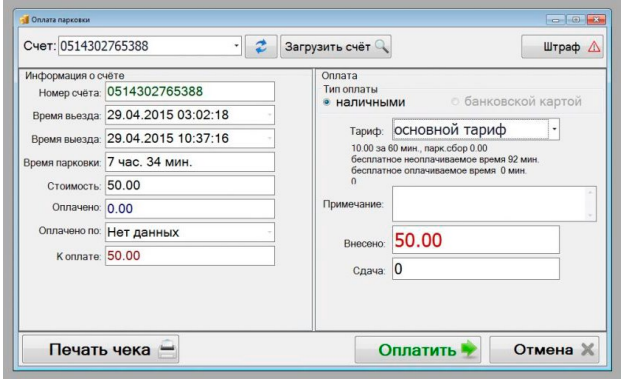
# Software of parking systems with an operator

Management software for semi-automated parking systems, developed by specialists of the SEA Company, has the ability to create multiple accounts with different access levels:

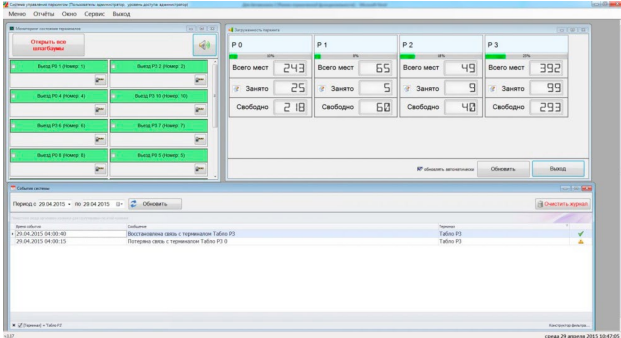
- **Operator** (payments reception, viewing of parking space occupancy statistics);
- **Manager** (for accountant or manager – viewing of statistical data, generation of various financial and statistical reports);
- **Administrator** (flexible software configuration, commissioning of various tariff etc.).

Software of parking system with an operator provides report generation: z-report; x-report; reports for a selected period (goods report, fiscal report, short fiscal report, examination of z-report numbers).

Parking control system allows integration of such number-plate recognition systems as TDK Anpr, NomerOk, CARMEN FREEFLOW ANPR/LPR SOFTWARE.



*Payment for parking*



Пространство	Всего мест	Занято	Свободно
P 0	243	25	218
P 1	65	5	60
P 2	49	9	40
P 3	392	99	293

*Monitoring of vehicle flow through the parking entry and exit terminals and total parking load*



# Automatic parking systems

Automatic parking on cards allows one-time visitors with reusable parking cards, contactless service / subscription cards and RFID tags to enter the parking area or via the mobile app SEA Parking. Services of private parking lots may be paid for through a QR-code payment method.

Payment for parking is possible without the assistance of the operator which excludes human errors. Payment is carried out through the parking pay station (which is located on the territory) by bills or bank cards. Payment terminal issues checks on thermal paper and may give back change (depends on the model). In addition, special parking cards can be used.

Exit from the parking zone is possible only through the exit terminal after successful scan of parking /service card data or RFID tag (parking session data and payment confirmation).

All payments and actions occur automatically. Integration of a vehicle number recognition system is possible for parking lots with photo fixation equipment: in that case the entry terminal prints the identified license plate number on a paper check.



# Composition of a automatic parking complex



## Inbound terminal:

- parking entry terminal;
- barrier with inductive and optical sensors;
- UPS (up to 20 min);
- LED-based parking sign about vacant parking spots (optional);
- LED traffic light (optional);
- photo fixation tools (optional).



Entry terminal

## Outbound terminal:

- barrier with inductive and optical sensors;
- UPS (up to 20 min);
- LED traffic light (optional);
- photo fixation tools (optional);
- scanner of radio-tag signals.



Exit terminal

## Parking pay station that issues change:

In automatic parking systems it is recommended to use the entry / exit terminals on reusable parking cards.



Payment terminal

# Software of automatic parking systems

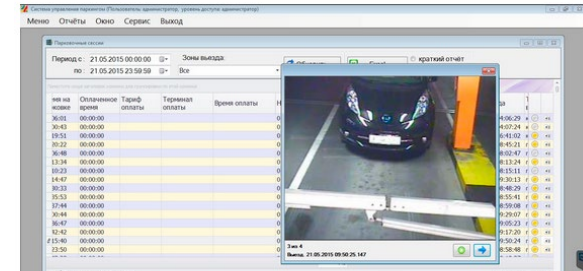


Control software for automatic parking systems, developed by specialists of the SEA Company, has the ability to create multiple accounts with different access levels:

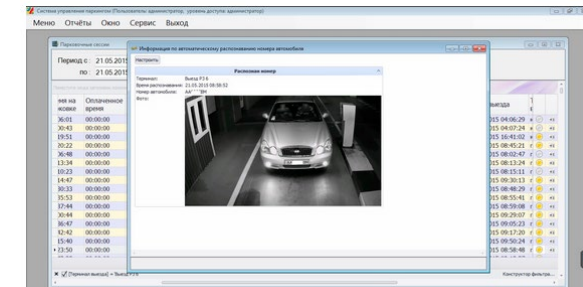
- **Manager** (for accountant or manager – viewing of statistical data, generation of various financial and statistical reports);
- **Administrator** (flexible software configuration, commissioning of various tariff etc.).

Automatic parking software provides report generation: z-report; x-report; reports for a selected period (goods report, fiscal report, short fiscal report, examination of z-report numbers).

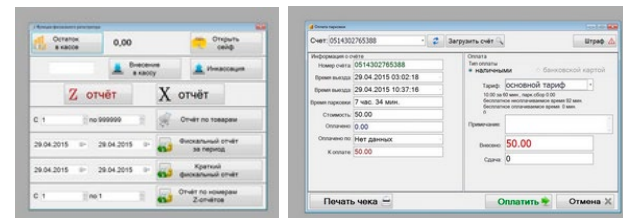
Parking management system allows integration of such number-plate recognition systems as TDK Anpr, NomerOk, CARMEN FREEFLOW ANPR/LPR SOFTWARE.



*Photofixation of vehicle and recording it to the archive*



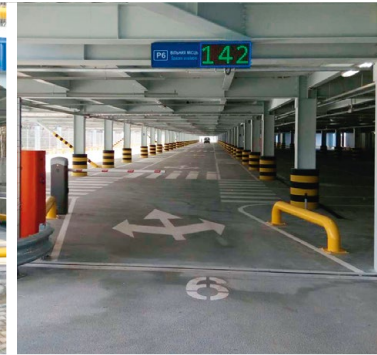
*Automatic license plate recognition*



# Realized parking complex projects



Parking systems for airports



Incentive parkings lots



Parking complexes for bus and railway stations



Parking lots for hotels, shopping malls, business centres



Parkings with reversible entry / exit

# Main advantages of SEA parking systems



- Parking complexes work in the 24/7/365 mode
- Availability of a video registration system at the parking entrance and exit as well as on the territory of the complex guarantees the safety of the vehicle in the parking area
- Flexible configuration of additional equipment: any video cameras, barriers, entry and exit terminals, card readers, etc., can be installed in accordance with customer requests
- Possibility of simple modernization or expansion of parking system functionality
- Possibility to replace the main units of parking complexes
- Integration into the general monitoring or dispatching system of similar complexes at unified center
- Possibility of preferential (free) use of parking in cases stipulated by law
- Control systems ensure safety of the vehicle and the visitor from the impact of the barrier while traveling or stopping in its zone
- Warranty and post warranty service
- Operative technical support and consultations by qualified personnel
- Competitive price for parking equipment and installation of systems in general
- Optimized power control algorithms allow parking meters to work independently (without connection to an external power source) for a long time: electric power is supplied by the built-in batteries that recharge in the daytime from solar panels
- Accumulator batteries of all parking pay stations can be recharged from the street lighting network that provides power at night. Thus, when connected to a street lighting network, the operation of the parking meters with installed solar panels can be provided all year round

# Modernization and maintenance of parkings



## Qualified specialists of SEA Company provide the following services:

- designing, mounting and commissioning of parking systems;
- warranty and post-warranty maintenance of parking lots;
- modernization of outdated systems of the parking.



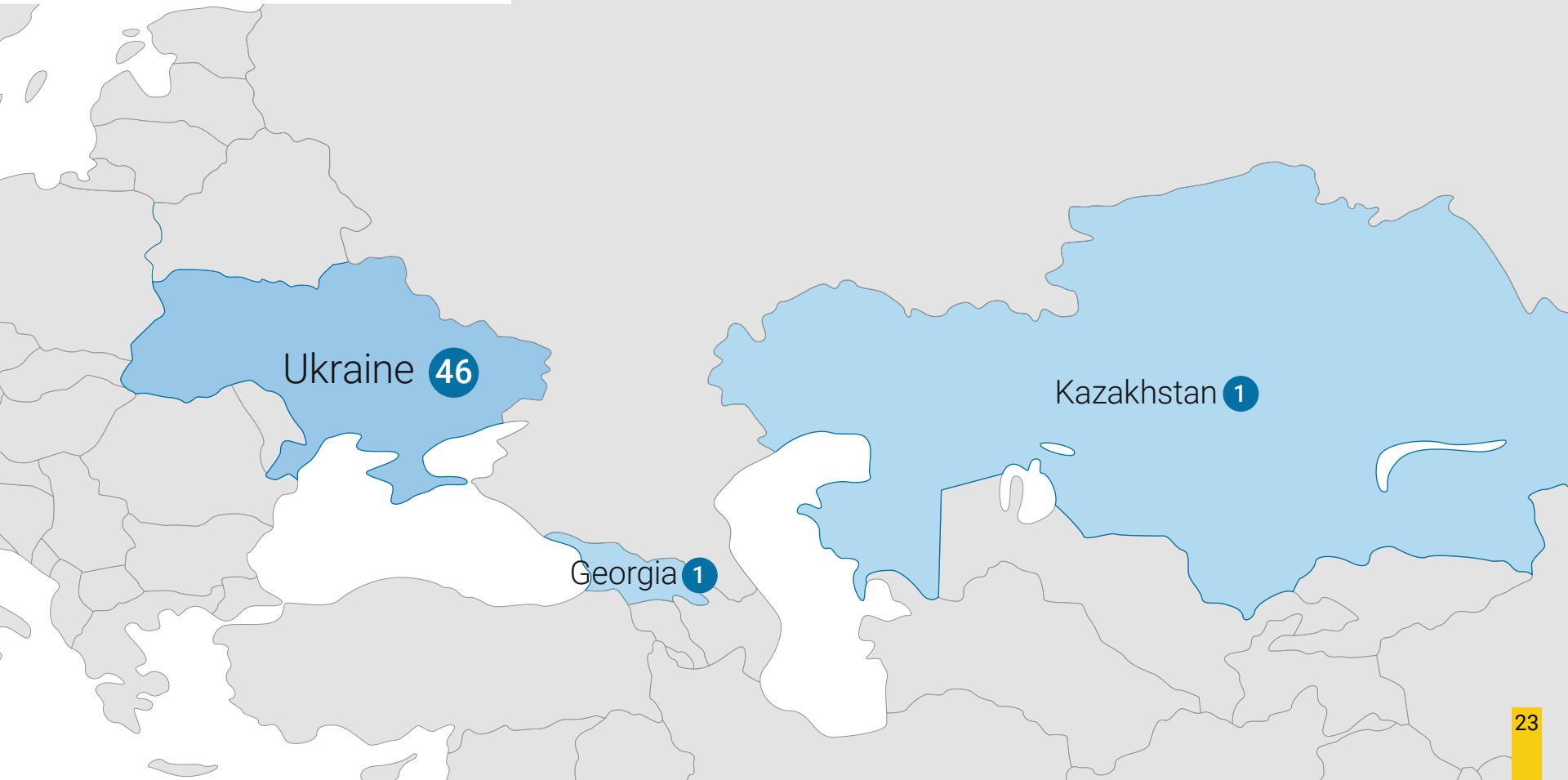
Realization of non-standard solutions of parking operation



Provision of warranty for performed work



# Realized projects



# Thank you for your attention

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