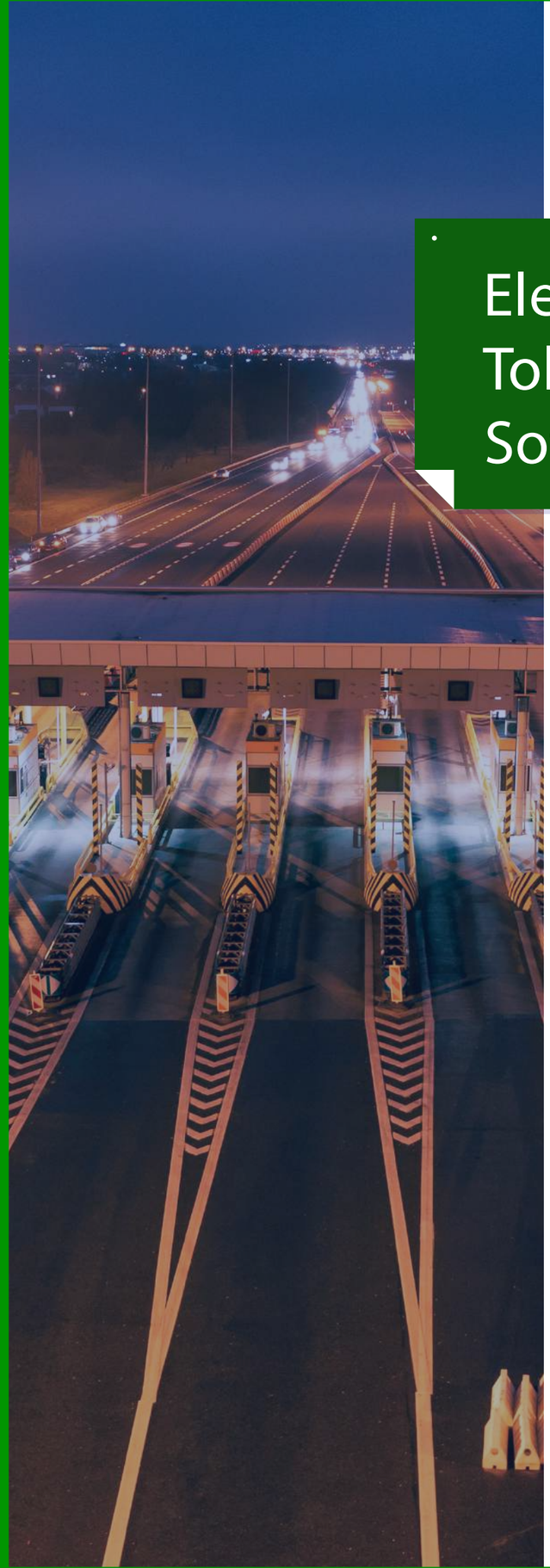
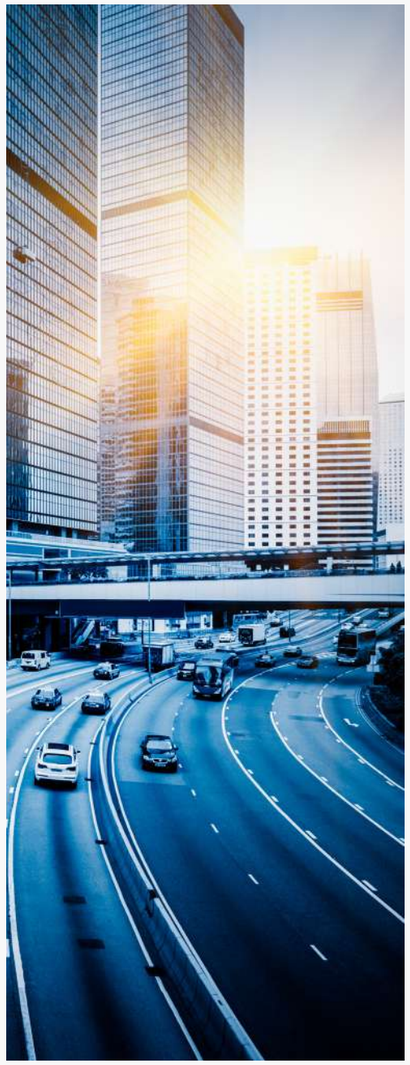
HYPER MICRON

Electronic Toll Collection Software



Electronic Toll Collection



Description and features:

The system meets the entire flow of non-stop toll collection and one-stop toll collezction of agencies and organizations with numerous modes of payment, administrative features, and associated utilities swiftly and with excellent performance.

Flexible customisation:

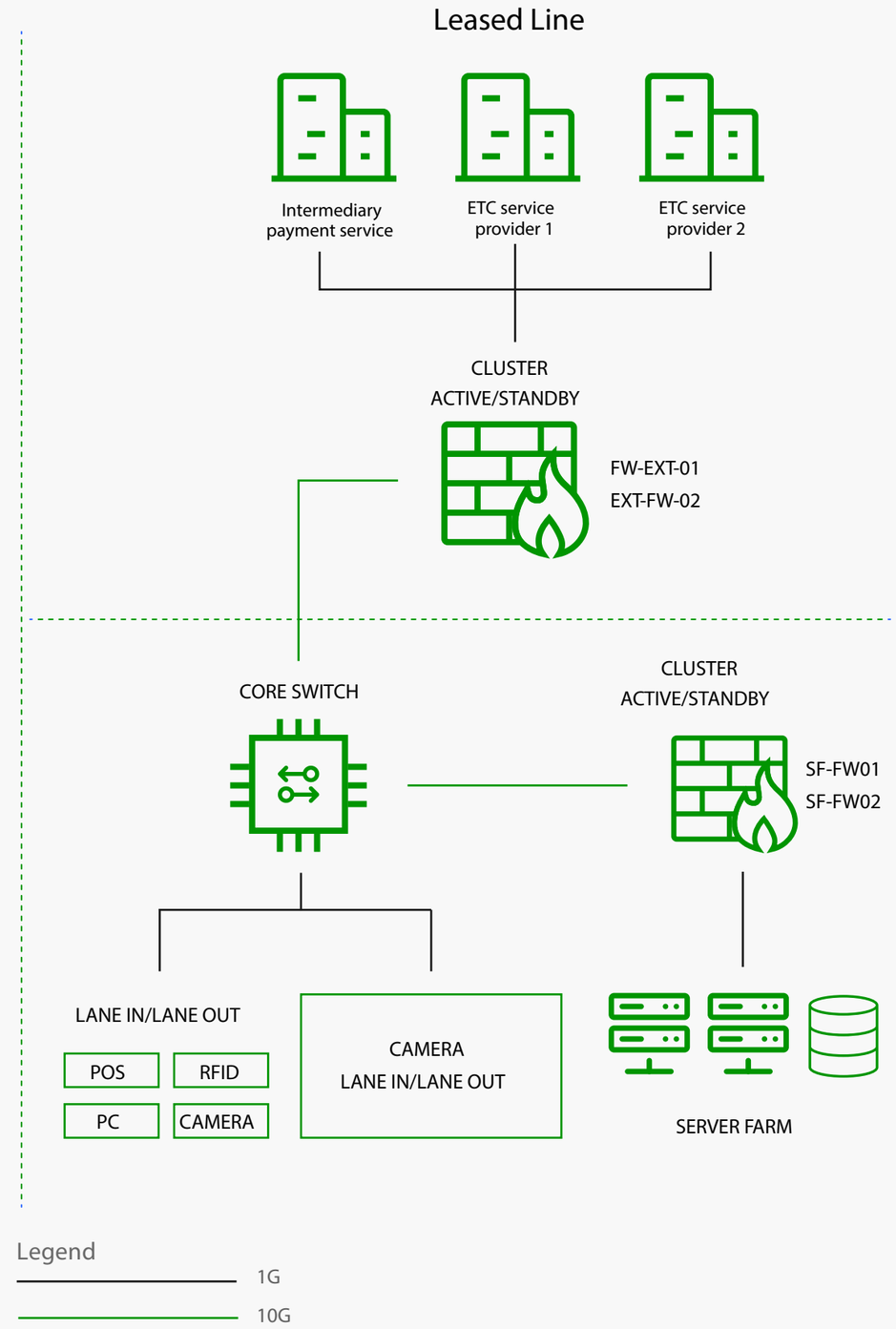
Easily adaptable to individual business require - ments or changes in methods, regulations, or tariffs.
Price: Competitive price compared to other toll collection systems on the market.
UX/UI Interface: Intuitive UX/UI design, optimized for visualization, simplicity and ease of use.

Technology:

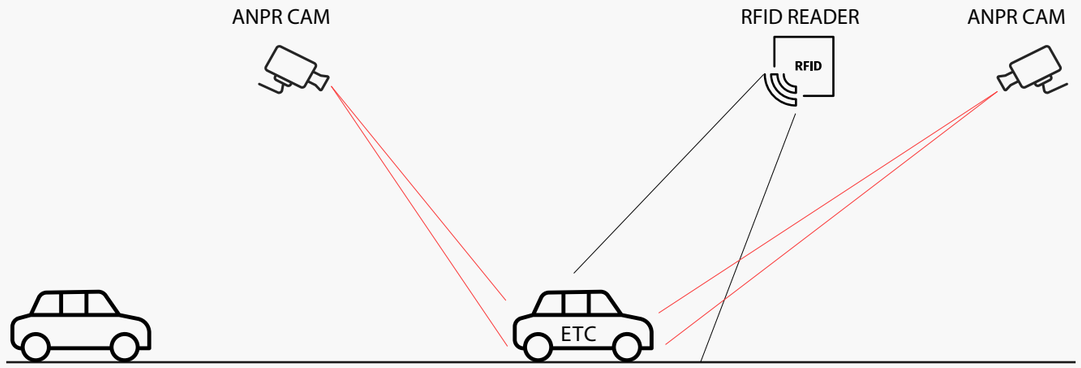
Advanced technologies such as AI, RFID ... our system supports upgrades, expansion and integra - tion with other systems. High security standard compliance and smart data backup mechanism.

Deployment:

The ability to perform batch deployment in order to reduce labor resource effort.



1. Lane in monitoring module - HYP-LI



Vehicle Number Plate Recognition using AI Camera

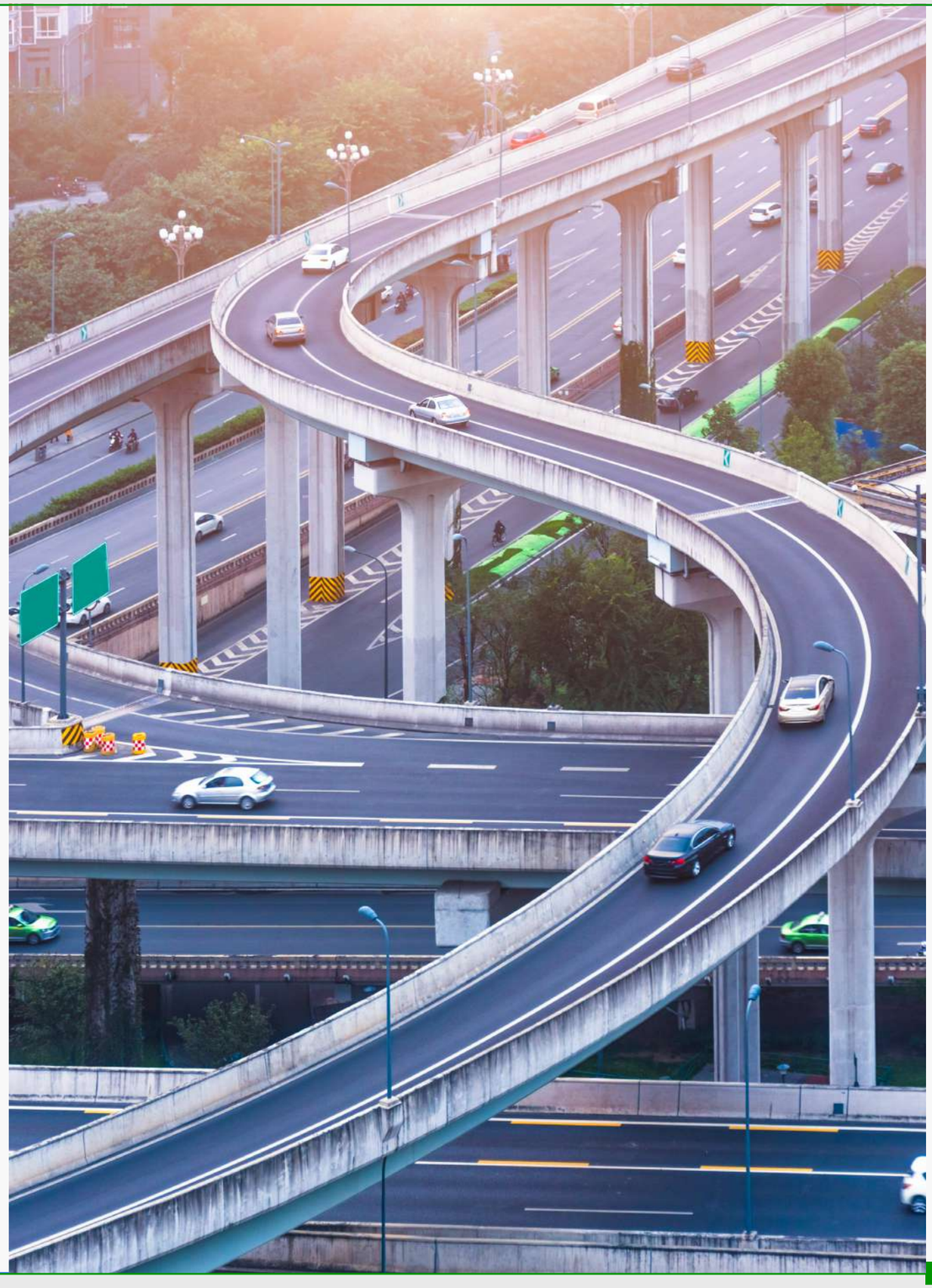
- The system is integrated with AI camera that recog - nizes number plates (front and rear), automatically captures and recognizes vehicle number plates when the vehicle moves into the camera installation area (front and rear).

Vehicle Number Plate Recognition using RFID

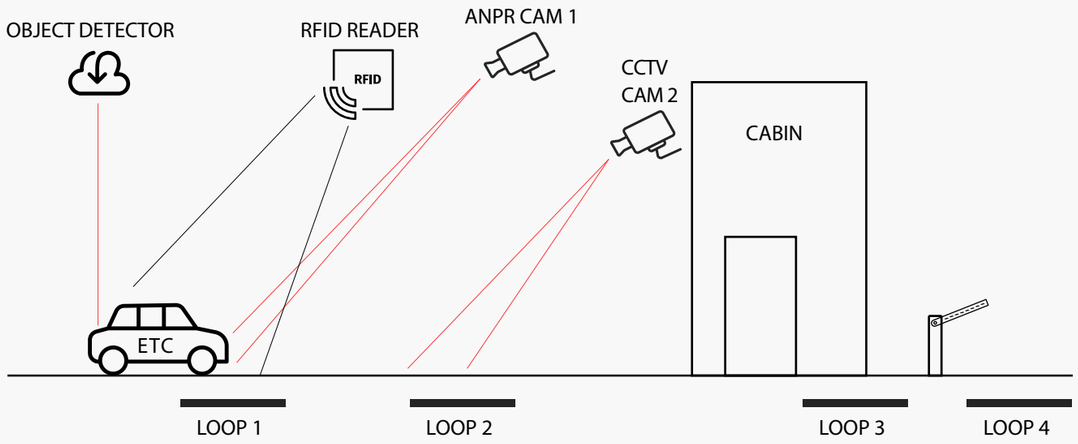
- The system is connected with an RFID reader device and automatically reads RFID tags when the vehicle enters the RFID reader antenna's coverage region. For automobiles having RFID tags, the system can find out the vehicle information based on the RFID tags (containing information fields such as vehicle type, number plate, and validity, etc.).

Supported system the process of synthesizing entry lane information

- Supported system the process of synthesizing entry lane information (RFID tag, number plate, vehicle type, vehicle images, entry time, etc) to control toll collection operations in the exit lane.



2. Lane out monitoring module - HYP-LO



Providing UI/UX interface for toll collection

- Information of lane in vehicles, lane out vehicles, toll amount, etc. Booth operators can check transactions on the display and manual edit the number plate if there is an incorrect identification.

Supporting multiple payment methods for toll collection

- Cash toll collection (time-based pass, one-time pass, monthly pass, quarterly pass, and contract pass), Tap & Go toll collection, QR Code toll collection, Electronic Toll Collection (ETC) based on vehicles plate numbers which have been registered with a specific e-wallet, RFID toll collection , priority toll collection (both registered and unregis tered prioritised vehicles, prioritised fleet vehicles).

  The module also has abilities to print receipts for cash, Tap & Go, and QR Code toll collection methods.

Allow synchronization and communication with other modules

- Communicate with Automatic Number Plate Recogni - tion (ANPR) module;
- Receive and control signals from PLC, Sick (Object detector), RFID Reader...
- Synchronize data between local computers at lanes and remote servers including toll collection data, employees, fees structure, vehicle types, number plate types, etc.

Other functionalities:

- Login/logout to start and end working session time and print out the session report;
- Support shortcut commands for booth operators: manual update vehicle type using keyboard, manual open/close barrier for prioritised vehicles, prioritised fleet vehicles by using physical device;
- Display overlay image data on UI and warning to booth operators if there is an infringement.

Flexible fee structures that meet specific local business requirements

- Time-based charge: Fees are calculated based upon entry/exit time:
  + By time block: 10 minutes, 30 minutes, 1 hour, etc
  + By time period: From day to day, month/quarter, etc
- Vehicle type-based charge:
  + Prioritised vehicles
  + Service vehicles
  + Contract vehicles
  + Tech vehicles
  + Personal vehicles
- Vehicle class-based:
  + 4 -10 seater vehicles
  + Over 10 seater vehicles
  + Over 16 seater vehicles
  + Pickup truck…

3. Number plate recognition system - HYP-NPRS

- Communicate with lane in and out camera devices and use AI technology to recognize vehicle number plates
- Persist vehicle number plate photos in order to process toll collection purposes.

4. Tolling back-office System - HYP-TBS

- Administration: support administrators to manage and configure primary data such as vehicle types, price structures, ticket structures, VAT configuration, employees, shifts, working teams, etc
- Vehicle management: Support administrators to manage vehicle categories as below:
  + Prioritised vehicles
  + Infringed vehicles
  + Contract vehicles
  + Monthly paid vehicles
- Reporting: The module provides a variety of statistical reporting forms, ensuring maximum support, quick and accurate administration and data statistics

Daily revenue report:
+ Daily lane – shift revenue report
+ Daily shift – lane revenue report
+ Detailed daily revenue report
+ Daily staff revenue report
+ Lane revenue report (cash toll collection, Tap & Go toll collection, QR Code toll collection, registered vehicle e-wallet toll collection, RFID toll collection)
+ Shift revenue report (cash toll collection, Tap & Go toll collection, QR Code toll collection, registered vehicle e-wallet toll collection, RFID toll collection)
+ Ticket type revenue report; Vehicle type revenue report (cash toll collection, Tap & Go toll collection, QR Code toll collection, registered vehicle e-wallet toll collection, RFID toll collection)
+ Taxi revenue report (collect statistics on the number of taxi passing to collect monthly fees)

Parking report
Shift breaks summary report
+ Daily lane – shift revenue report
+ Daily shift – lane revenue report
+ Daily lane revenue report
+ Ticket type revenue report
+ Vehicle type revenue report

Integration with third-party Toll Collection Services for Backend providers
+ Communicate with Electronic Toll Collection Back-end in regards to Payment and Reconciliation
+ Ability to switch between Electronic Toll Collec - tion service providers based upon the RFID code

Integration with third-party e-wallet service providers
+ Support different payments such as bank cards, QR code (Payment and Reconciliation)
+ Support payment reconciliation between parties (Payment and Reconciliation)
+ Support in-app payment for registered vehicles (Payment and Reconciliation)

5. Post-check monitoring system - HYP-PMS

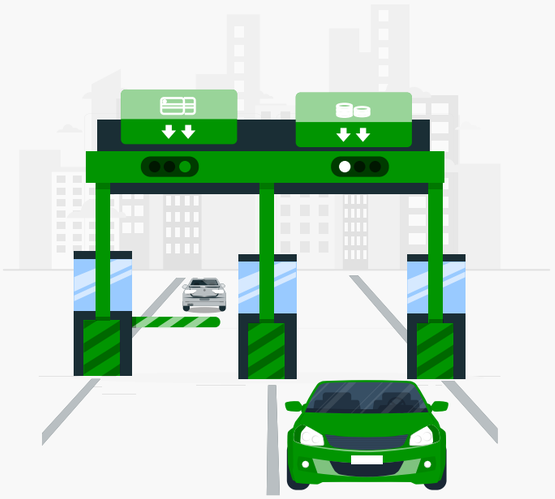
Lane in post-checking

Lane in post-checking:

- Allow administrators to perform monitoring and post check vehicles that have false information by manually edit vehicle number plates if missing or incorrect;
- Search vehicle information by criteria such as number plate, RFID tag, time, etc;
- View detailed vehicle information: number plate, front and rear number plate photos, entry/exit time, vehicle type (if RFID tag is valid);
- Support printouts and general reports.

Lane out post-checking

- Allow administrators to perform monitoring and post check vehicles in regards to differement payments: cash collected vehicles, non-cash collected vehicles (Tap & Go, QR code, e-wallet registered vehicles), Electronic Toll Collection collected vehicles (RFID tag collection;
- Search vehicle information by criteria such as number plate, RFID tag, time, etc;
- View details of lane out vehicle information including:
  + Lane in vehicle information (photos, number plate, vehicle type, etc);
  + Lane out vehicle information (number plate photos, number plate, overlapping photos, vehicle type, etc);
  + Fees information (payment method, amount)
- Supports printouts and general reports.



Lane out post-testing

6. Recommended & minimum Configurations

Configuration requirements for booth operator computers:
+ Operating system: Windows/Linux;
+ Processor: 64-bit Intel core i5 or AMD with a speed of 2.8 GHz;
+ Memory: RAM 16GB;
+ Storage: 512GB available space.