AUTOMARSHAL
SOFTWARE DEVELOPMENT KIT

AUTOMARSHAL.SDK
AUTOMARSHAL.SDK SERVICE API

The ANPR functionality can be added to the software you develop by means of:

- Integration of Automarshal.SDK recognition module into the software.
- Application of Automarshal.SDK Service API recognition service.

Automarshal.SDK

Automarshal.SDK is a license plate recognition module designed to be integrated into vehicle access control and management systems. The input for recognition algorithms is a sequence of video frames received from a surveillance camera or from a video file. The Automarshal.SDK software core analyzes incoming images, finds and recognizes vehicle number plates in them. For each recognized number, the SDK generates an event and transfers data about it to the developer's software. Integration is only possible in software designed to work in the Microsoft Windows operating system.

Automarshal.SDK Service API

Automarshal.SDK Service API is an independent software product implemented as a service for Microsoft Windows. To obtain recognition results, third-party software subscribes to service events. The SDK Service API recognition core receives video stream from a camera or from a video file, analyses the sequence of frames and generates events about the recognized number plate for each vehicle. Interaction with recognition core is performed using the HTTP protocol. It allows to integrate with software written in any programming language and working under any operating system.

ADVANTAGES:

- Automarshal.SDK allows the integrator to quickly expand the functionality of the existing systems or build new proprietary solutions using number plate recognition technology
- The SDK contains a module for capturing images from various video sources (IP video cameras, video recorders, etc.), which exempts the developer from the need to implement his own way of receiving video

KEY FEATURES:

- Recognition reliability up to 98% at vehicle speed up to 270 km/h
- Multi-country number plate recognition
- Simultaneous recognition of all plates in a shot
- Number of recognition channels (connected cameras) is determined by PC performance

ACCESS CONTROL

PARKING TIME CALCULATION

CONTROL AT CAR WASHES

VEHICLE REGISTRATION AT GAS STATIONS

CUSTOM CONTROL

TRAFFIC MONITORING

VEHICLE SEARCH

TECHNICAL CHARACTERISTICS

GENERAL INFORMATION

Supported plate types	Abkhazia, Azerbaijan, Armenia, Belarus, Belgium, Bulgaria, United Kingdom, Hungary, Vietnam, Germany, Hong Kong, Greece, Georgia, DPR, Israel, Ireland, Spain, Italy, Kazakhstan, Qatar, Kyrgyzstan, Latvia, Kuwait, Lithuania, Luxembourg, Netherlands, Moldova, the United Arab Emirates, Poland, Portugal, Mongolia, Russia, Romania, Tajikistan, Turkey, Uzbekistan, Ukraine, Finland, France, Montenegro, Czech Republic, Sweden, Estonia, South Korea, and other countries on request
Supported languages (Automarshal.SDK)	User interface is available in English and Russian
Number of video channels	Determined by PC performance
Delivery set	Recognition core (a collection of .dll files written in C# language) Documents for core integration in third party software Samples of core integration in third party software for most common languages Hardware key and the license file that allow the use of a certain number of channels (video cameras) for NPR

TERMS OF USE

Vehicle speed	Up to 30 km/h (parking lots, checkpoints, carwashes, etc.) Up to 270 km/h (highways)
Recognition distance	From 5 to 30 meters (depends on the video camera lens)
Width of control/ recognition area	Up to 5 m for video camera resolution 1280x720 and higher Up to 7 m for video camera resolution 1920x1080 and higher
Camera pan/tilt angle	Up to 30°

TECHNICAL PARAMETERS

Supported operating systems	Windows 7SP1/8.1/10 (64 bit) Windows Server 2012R2/2016/2019 (64 bit)
Recommended computer parameters to control vehicles moving up to 30 km/h	Intel Core i3-8XXX, 2.7 GHz, 4 Гб (for processing up to 2 channels) Intel Core i5-8XXX, 2.7 GHz, 8 Гб (for processing up to 4 channels) Intel Core i7-8XXX, 2.7 GHz, 16 Гб (for processing up to 8 channels)
Transmission protocols of ip-cameras	HTTP, RTSP
Video compression formats	H.264, MPEG-4, MJPEG
Licensing	The SDK is protected by a special hardware key and cannot be used without it. Licensing with a USB-key or a software key is possible (software license)

INTEGRATION

Automarshal.SDK	Microsoft .NET is applied for integration with software written in .NET-language for MS .NET Framework 4.5 or later (C#, VB .NET, etc.) COM/OLE is applied for integration with the software, which programming language supports COM-objects and interfaces (C++, Object Pascal/Delphi, VBA, 1C, etc.)
Automarshal.SDK Service API	Http requests - the integration is performed through a subscribe system to service events about recognition of numbers.RabbitMQ message broker - the recognition results are transferred to the RabbitMQ server, where the recipients can read these results from their message queue.