

ATAPY ANPR SDK

ATAPY ANPR SDK is a specialized software product for Logistics and Transportation industry featuring Automatic car Number Plate Recognition technology. It is designed for application developers who wish to incorporate Automatic Number Plate Recognition technology into their software applications. ATAPY ANPR SDK is a flexible solution capable of working with practically any Windows-based external software system and image capture device (camera), and can be tailored to meet specific customer requirements.

ATAPY ANPR SDK Features



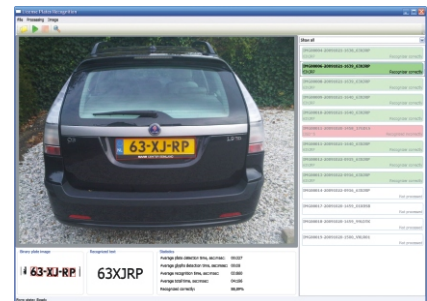
ABBYY®

- Powered by one of the industry's most precise OCR technology - an OCR engine by ABBYY Software House
- International number plate reading capability: guaranteed performance on German, Swedish, Dutch, Russian, and Austrian (selected types) number plates, quickly extendable to support new number plate types
- Automatic geometric skew/tilt correction
- Available in two versions: a standard desktop/server one and a Mobile Version providing recognition on the device

ATAPY ANPR SDK Recognition Process

The recognition process includes the following stages:

1. The image is binarized using a set of specialized threshold algorithms.
2. Geometric distortion compensation is applied. The built-in deskew algorithm allows correcting the tilts of up to 20°-30°.
3. The number plate position is detected on the image. The rectangle of the number plate image is extracted.
4. The number plate image is segmented into individual characters; the character coordinates are extracted.
5. Symbols are recognized using the OCR algorithms provided by the OCR engine ABBYY FineReader Engine/ABBYY Mobile SDK (depending on which ATAPY ANPR SDK version is used).



The output of the SDK is a text string containing the recognized number, the source image, the extracted image of the number plate, and a set of additional data including the coordinates of characters and those of the plate borders, recognition confidence level (in percent), and other possible recognition versions for uncertainly OCRed characters with their estimated confidence level.

The OCR results may later be used for matching against a database to find out if the vehicle is stolen, on the white/black list, etc., depending on the goals of the external application. The SDK can be tailored to meet practically any particular demand.

Capture Point Requirements

ATAPY ANPR SDK can accept input images from any digital camera, monochrome or color, as long as they meet the following requirements:

- Format: BMP, JPEG, JPEG 2000, GIF, PNG (photo), DivX, Motion JPEG (video)
- Image resolution: not lower than 96 dpi
- No blur, pixelation, optical and perspective distortions, shadows, over- or underexposed spots
- The number plate width is not smaller than 100 px



The image capture point must meet the following conditions:

- Sufficient illumination (at least 300 lucas); all parts of the number plate are equally illuminated
- Plate image skew: not more than 20°-30°
- Vehicle speed: 20 km/h or less
- Distance between vehicles: at least 5 meters

ATAPY ANPR SDK Package

The SDK package includes the following components:

- Automatic Number Plate Recognition engine
- Functions library (.NET, COM, C++)
- Demo GUI application
- Developer documentation and a sample application

ATAPY ANPR SDK: Areas of Use

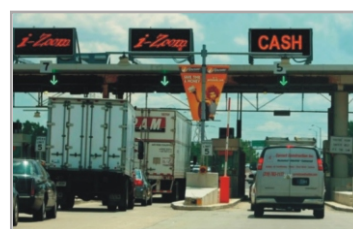
ATAPY ANPR SDK is best suitable for operating at vehicle control points where cars slow down to 20 km/h or less. This SDK can be used in a variety of applications, such as

Access control applications:

- Controlled and automatic vehicle entry to and exit from controlled/restricted areas
- Parking lot management systems
- Toll road monitoring and surveillance system (at control points)

Security and maintenance systems:

- Public transport enforcement systems
- Border security
- Vehicle weight enforcement systems
- Petrol Station security
- Fleet management/inventory management systems



ATAPY ANPR SDK: Mobile Version

The specialized Mobile Version of ATAPY ANPR SDK requires only a camera-enabled mobile device running Windows Mobile 6 or higher; it has small footprint and allows recognition on the device itself. Areas of use:



- Street and car park audits
- Mobile vehicle assessments for insurance claims, auction, sales, etc.
- Police Enforcement
- Fleet management and inventory control systems
- Parking lot monitoring

Technical Specifications

Supported Operating Systems	Regular version	Windows Server 2003, 2008 (32/64 bit); Windows 2003, XP, Vista, Windows 7 (32/64 bit)
	Mobile version	Windows Mobile 6 or higher
Interfaces		.NET library, COM, C++
Types of Plates		German, Swedish, Dutch, Russian (~90% OCR rate); Austrian (selected subtypes)
System Requirements	Regular version	Processor: PC with Intel® Pentium®/Celeron®/Xeon™, AMD K6/Athlon™/Duron™/Sempron™ or compatible; min. 500 MHz RAM: 512 MB; Hard disk space: 100 MB ABBYY FineReader Engine 7.1 or 8.1; .NET Framework 3.5 or higher
	Mobile version	Hardware requirements depend ABBYY Mobile OCR Engine 3.0 or 4.0; .NET Compact Framework 3.0 or higher

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