



# CARMEN® ADR SOFTWARE

## Dangerous goods – identified safely



Traffic management brings the most benefits when all vehicles are properly identified – especially if a vehicle carries dangerous goods. Such function is just a small add-on to an ITS system, but can save lives in risky situations.

Carmen® ADR is developed for Automatic Dangerous Goods Recognition to recognize and decipher the hazard identification number (shortly HIN number or also Kemler code) of commercial vehicles carrying hazardous materials.

By reading these codes, traffic monitoring and road safety systems can become highly automated – roads, tunnels and bridges remain safe while transporting dangerous cargo.



AUTOMATED  
TUNNEL  
SECURITY  
SYSTEMS



AIRPORT  
AND  
HARBOR  
LOGISTICS



HIGHWAY  
OR CITY  
ITS SYSTEMS



BORDER  
CONTROL  
CUSTOMS



TRAFFIC  
SECURITY  
MONITORING

## Main benefits

- Increases security and safety of transportation infrastructure
- Tracks vehicles carrying dangerous goods
- Automating ADR (HIN) code reading that saves time and resources
- High accuracy and recognition rates
- Smooth and problem-free operation 24/7

# Specifications

- automatic reading of HIN (Kemler Code) • diverse input source options • identification of blank or empty plates
- camera independent • motion detection • scalable • high accuracy

Special ACCR cameras are available for recognitions rates.

## General information

Purpose	Automatic recognition of hazard identification numbers – HIN/Kemler code recognition software for various intelligent traffic systems to enhance safety of traffic and roads
Supported Operating Systems	Windows (32/64 bit) Linux (32/64 bit)
Supported Platforms	x86_32   x86_64   ARMv7 Cortex A8 and above   PPC
Minimum System Requirements	1 GHz CPU   512 MB RAM   1 GB HDD   free slot for NNC
Licensing	One license per application thread, multiple license/controller is available One year from purchase included, optional subscription available on yearly basis
Available Neural Controllers	USB 2.0 dongle - type A USB internal 4-pin PCIe card (X1) Mini-PCIe card

## Interface

Input	Still image from file or memory in various image formats ( BMP   PNG   JPEG   JPEG2K   RAW ) Live analog video input (PAL or NTSC) Live digital camera input
Output	ADR data Hazard identification number in ASCII text Position of the plate Confidence level in percentage Confidence level for each character List of further suggestions for each character Individual result for each image Color of plate (optional) Location of each plate on one image
Trigger	Can be integrated with any trigger device (recommended when recognizing from live video stream) Software motion detection module is included

## Development tools for easy integration

Supported programming languages under Windows	C/C++, C# Visual Basic .NET Java
Supported programming languages under Linux	C/C++, Java
In The Box	Development libraries: .dll, .so files Demo application, sample codes for each programming language Neural network controller Comprehensive digital documentation

Technical specifications are subject to change without prior notice. This document does not constitute an offer.

