

# Automatic Number Plate Recognition

Safer and Fully Automatic Street & Parking Solutions

ABILITY AI-Vue ANPR Camera is an ANPR AI camera designed with Intel® Movidius™ and supported by Intel® OpenVINO™ toolkit, AI-Vue ANPR Camera is best-in-class AI-algorithms-carrier for seamless integration of your AI solutions from Cloud to Edge!!



ABC-1234

DEF-5678

GHI-9012



## Faster AI Development

Free Intel OpenVINO toolkit for variety of OS, computer vision library, framework, & pretrained models.



## Contact Less

Time-saving & Convenient. Just stop, go & pass.



## Instant Recognition

Specialize in vehicle detection for license plate recognition as high as 60 fps of 1920\*1080 resolution.



## 24 Hours Operation

Powered with 40m Infrared LED with clear night visibility & weather-proof housing.



## High Accuracy

Adaptive to high contrast lighting condition with Ability Super HDR Pro ( HDR + WDR ).



## Ready for Integration

Flexible for dynamic configuration from front-end to back-end such as access gates, signage, VMS, etc.



## ABILITY AI-Vue ANPR Camera



## Product Overview

The industry-leading AI-Vue ANPR Camera is an ANPR AI motorized Varifocal Bullet network camera. Powered by Sony Starvis 2MP sensor, the frame rate reaches as high as 60 frames per second at 1920\*1080 pixels. The camera is deployed with a 5-50mm 10X lens and an IR illuminator up to 40 meters effective range for better night visibility. Weather-proof IP66 & IP67 and vandal-proof IK10 housing make the camera withstand violent situations for outdoor surveillance applications.

## Feature List

- **ANPR:** Decode license plate image for validation of AI applications under restricted lighting conditions
- **Super HDR Pro ( HDR+WDR ):** Ensures images with quality under severe outdoor scenarios and meet high accuracy requirement for AI applications
- **Smart IR:** Adjusts the angle & brightness of IR LEDs automatically to an appropriate exposure level for image details
- **Low Light:** Enable to see the color at night by extreme low Lux

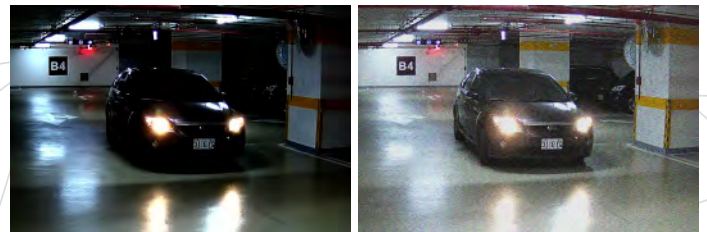
## A Clearer Visibility AI Applications Can Have Than Before

Ability Super HDR Pro (HDR+WDR) is featured with a synchronized utilization of both HDR & WDR. The performance of Ability Super HDR Pro (HDR+WDR) ensures images with quality to severe outdoor scenarios and meets high accuracy requirement for AI applications as test result shows by Imatest. This brings AI-capable cameras to next level of industry standard.

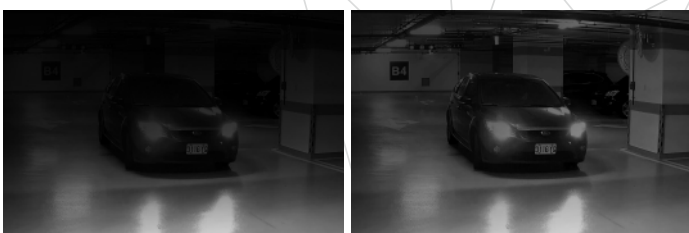
### License Plate - Special Parameters



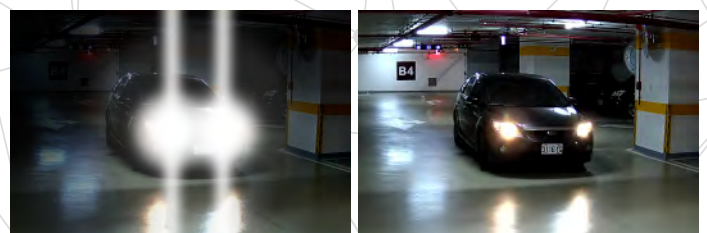
### Low Light



### IR Uneven



### Contrast Issue



# Product Specifications

<b>Model Name</b>	VS1NNL0
<b>Model Type</b>	AI-Vue 2MP bullet
<b>Image Sensor</b>	1/2.8" progressive scan
<b>Max. Resolution</b>	1920 x 1080 (2MP)
<b>Focal Length</b>	5.1-51mm ±5%
<b>Iris</b>	Auto-iris
<b>Field of View</b>	55.2°~7.1° ±5% (Horizontal) 31.8°~4.1° ±5% (Vertical) 62.5°~8.1° ±5% (Diagonal)
<b>Shutter Time</b>	1/25 sec. to 1/8,000 sec.
<b>HDR Technology</b>	YES
<b>IR Illuminators</b>	Built-in IR Illuminators up to 40 meters ( 70m under Planning )
<b>Minimum Illumination</b>	Color: 0.04 lx, F1.6 Black: 0.02 lx, F1.6
<b>Video Compression</b>	H.264, H.265, MJPEG
<b>Maximum Frame Rate</b>	60fps @1920 x 1080
<b>Maximum Streams</b>	3 simultaneous streams
<b>Image Settings</b>	Configurable Brightness, Contrast, Saturation, Sharpness, White Balance, Rotate View, Exposure Mode, Stream Format, Resolution, Frame Rate, Rate Control, Video Quality, HDR, DWDR, IR Cut Filter, 2DNR / 3DNR, Privacy Masks, Video Rotation
<b>Audio Compression</b>	AAC /G.711
<b>Network Protocols</b>	IPv4 ; HTTPS ; SSL/TLS ; DNS client ; NTP client; TCP ; UDP ; IGMP ; ICMP ; DHCP ; ARP ; RTCP;RTSP ; RTP
<b>ONVIF</b>	ONVIF Profile S
<b>Casing</b>	IP66, IP67, IK10
<b>Operating Temperature</b>	IR ON: Operating temperature: -20°C ~ 40°C IR OFF: Operating temperature: -20°C ~ 60°C
<b>Humidity</b>	20% to 55%
<b>On-board Storage</b>	1x Micro-SD ; SD / SDHC /SDXC UHS-I, 32GB to 256GB, class 10
<b>Interface</b>	RJ-45 cable connector for Network 10/100/1000 Mbps PoE (IEEE 802.3at) / DC 12V / AC 24V / Alarm Input*1 & Output*1 / Audio Mic. in*1 & Line out*1
<b>Web Browser</b>	Google Chrome
<b>Dimensions</b>	84mm X 77mm X 293.7mm
<b>Accessories</b>	VSHXXX0 Junction Box for standard bullet Wall Mounting type

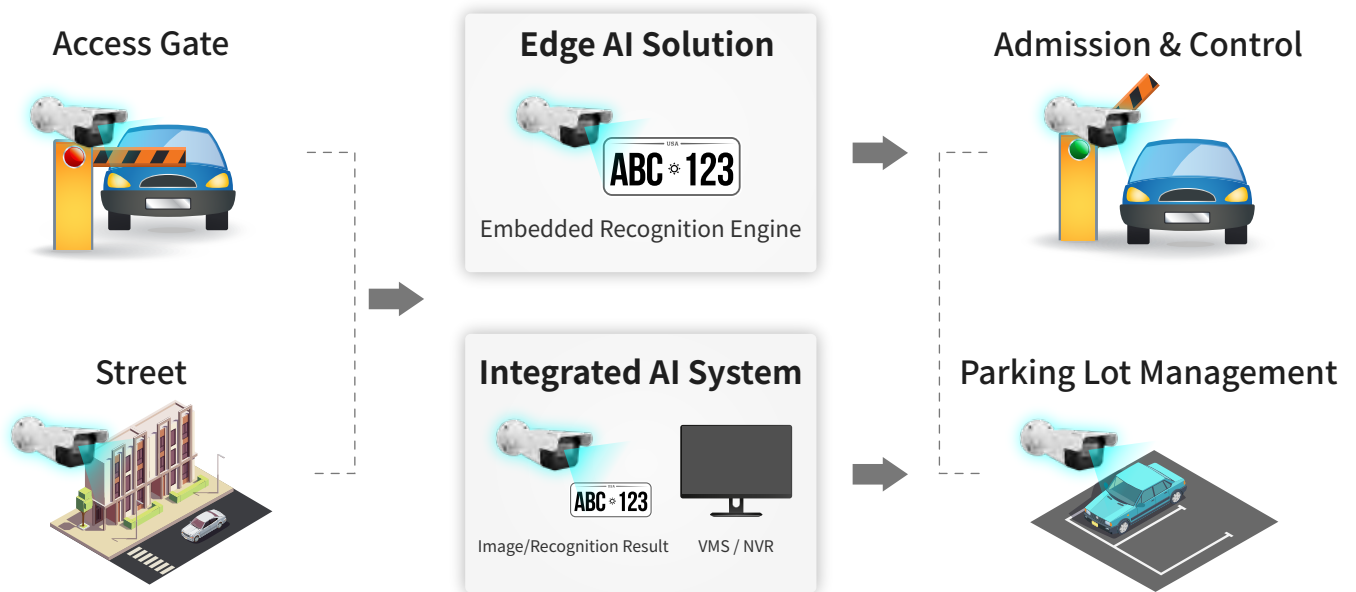


# Artificial Intelligence & Deep Learning

Ability ANPR camera series can quickly deploy AI applications and solutions via Intel® OpenVINO™ toolkit that simulate human vision and sound. This tool kit is a free software and can directly run on Ability Edge-AI camera platforms. OpenVINO™ can be used in Windows, Linux, MacOS operating systems, and support OpenCV, OpenVX computer vision library, Tensorflow, Caffe, MXNet, ONNX, Kaldi as well as other related machine learning models. There are also dozens of Inference Engine Samples code and Pre-Trained models in this tool kit for customers to develop directly. These models are applicable in fields like consumer electronics, medical, financial, retail, government, energy, transportation and industrial. Intel® OpenVINO™ tool kit is suitable for OEM or system integrators to deploy solutions quickly and easily.



## Configuration

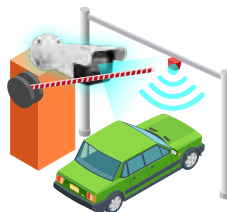


## Applications of Ability ANPR

### White / VIP List



### Dual-factor Authentication



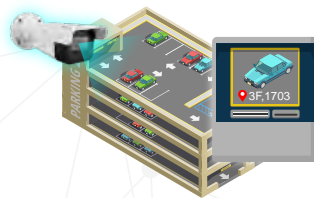
### Video Search



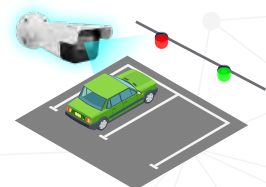
### Event Alert



### Car Search



### Parking Guidance

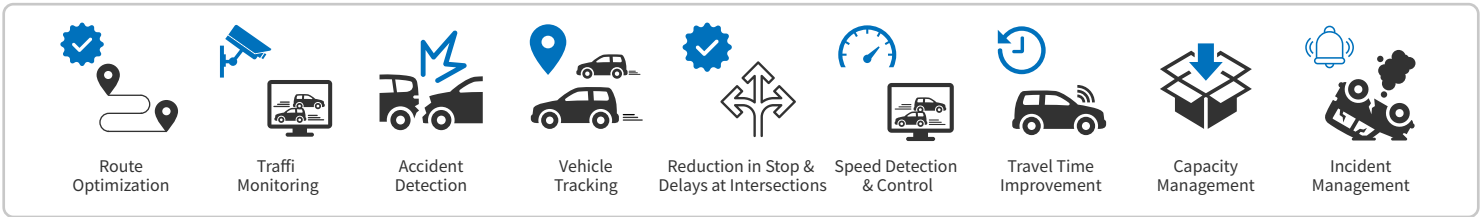


# Adaptive Traffic Control Systems (ATCS)

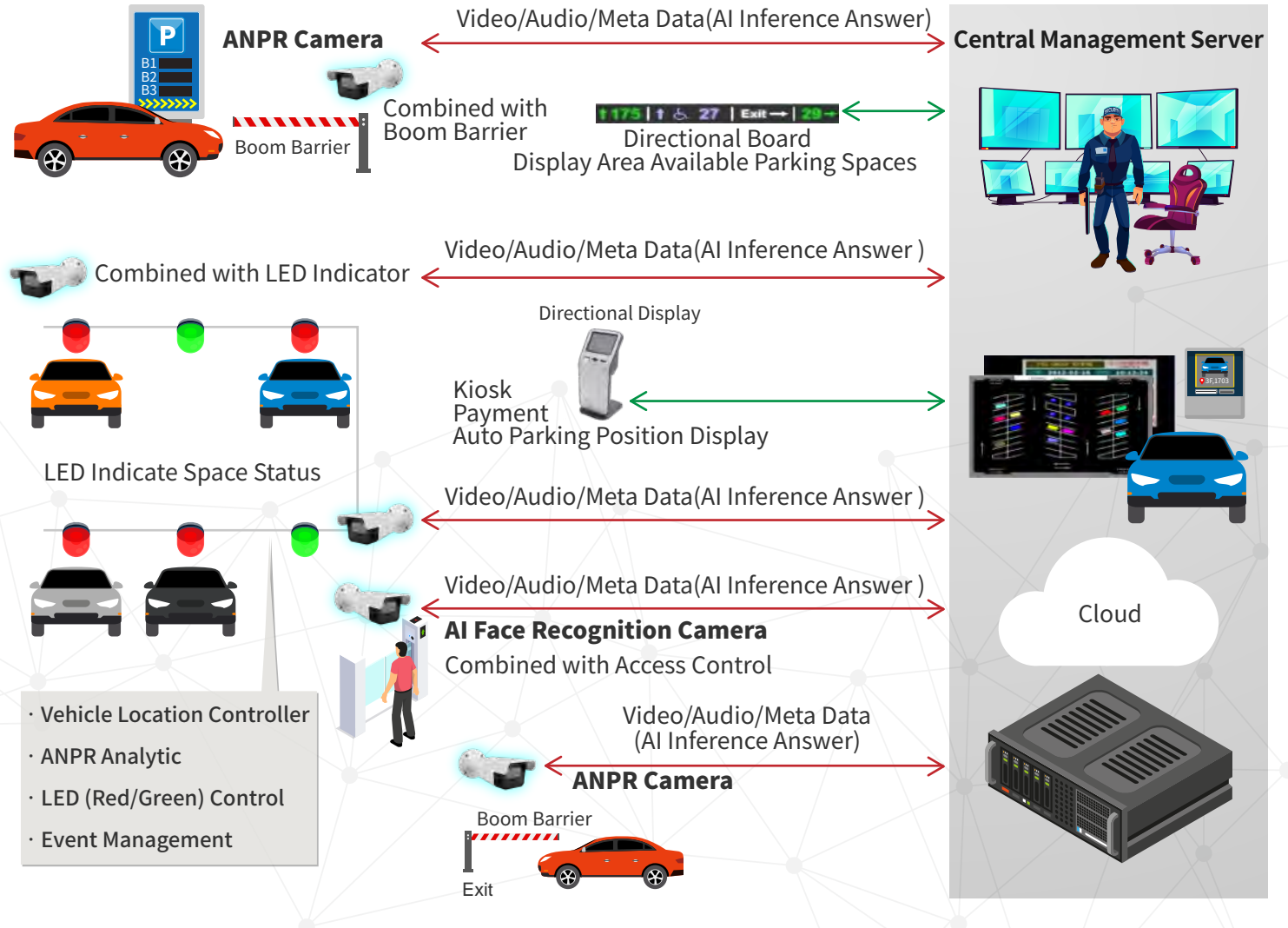


ATCS makes use of AI to optimize traffic with best timing of traffic signals. The system composites cameras and sensors for data collection and analyze with AI models at particular junctions. The network optimizes the signal pattern based on traffic density and assists control center on a real-time basis. It allows signals to interact with each other and coordinate signal timings to keep traffic flow smoothly.

With smoothing traffic flow, ATCS can enhance traffic time reliability, increase traffic signal timing efficiency, and save fuel ( cost ) by less stops.



# Smart Parking Solution





# Installation

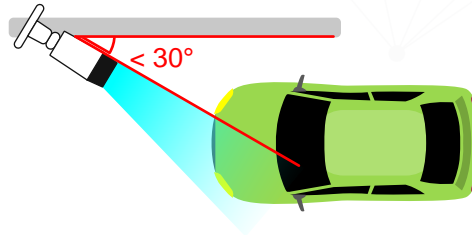
## Entrance / Exit



Captured Image

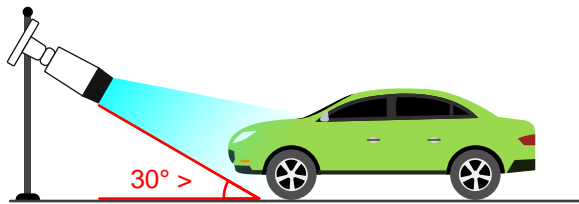
### Horizontal Pointing of the Camera

The horizontal angle to the registered plate must be less than 30°

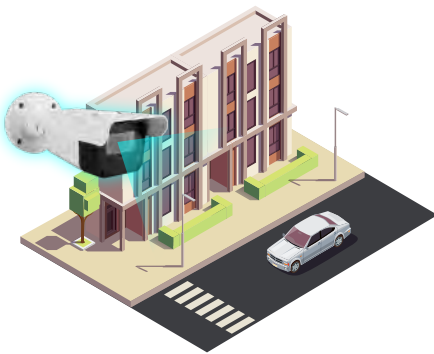


### Vertical Pointing of the Camera

The vertical angle to the registered plate must be less than 30°



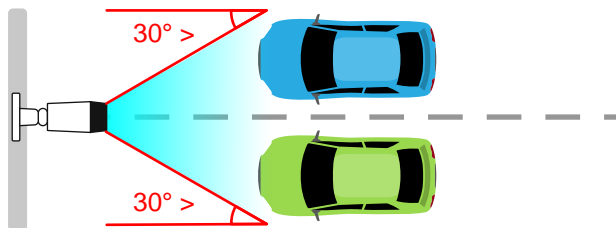
## Street



Captured Image

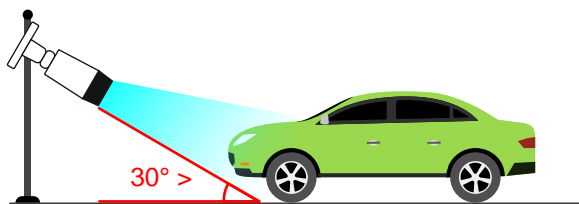
### Horizontal Pointing of the Camera

The horizontal angle to the registered plate must be less than 30°



### Vertical Pointing of the Camera

The vertical angle to the registered plate must be less than 30°



\*Applied to the speed from 20 km/h to 90 km/h (12mph to 56mph)

## The Leading Manufacturer of AI Camera -Innovative ODM/OEM service provider-

**Ability Taiwan / Headquarters**  
Tel: +886-2-8522-9788  
Email: Sales.Ability@abilitycorp.com.tw

**Ability USA**  
Tel: +18584012868  
Email: Ken.Lin@abilitycorp.com.tw

**Ability Italy**  
Tel: +393519569498  
Email: Giovanni.parisi@abilitycorp.com.tw