

Vehicle Detection System (IVDS)

Color Your Dream

Contents

- 1 System Overview
- 2 System Configuration
- 3 System features and functions
- 4 Applications

1. System Overview

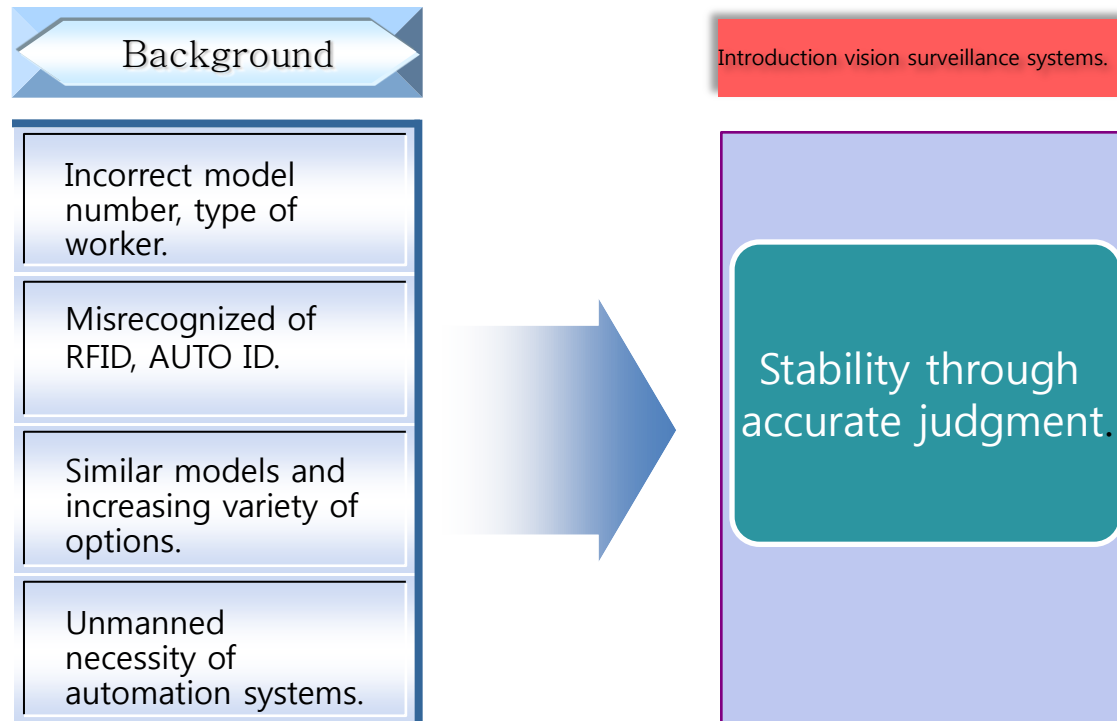
Color Your Dream

■ Overview

Intelligent Doolim Vision System(IVDS) has been developed for automatic type detection of cars or bumpers in the customer's production line.

For customer, we offer not only IVDS itself, but also customized system design, system installation, user education, and maintenance.

Through IVDS, customers can prevent robot collisions and defective products caused by wrongly defined car type information in AUTO ID and RFID, because the overlapped car type detection process with IVDS and RFID plays a role as a safety device.

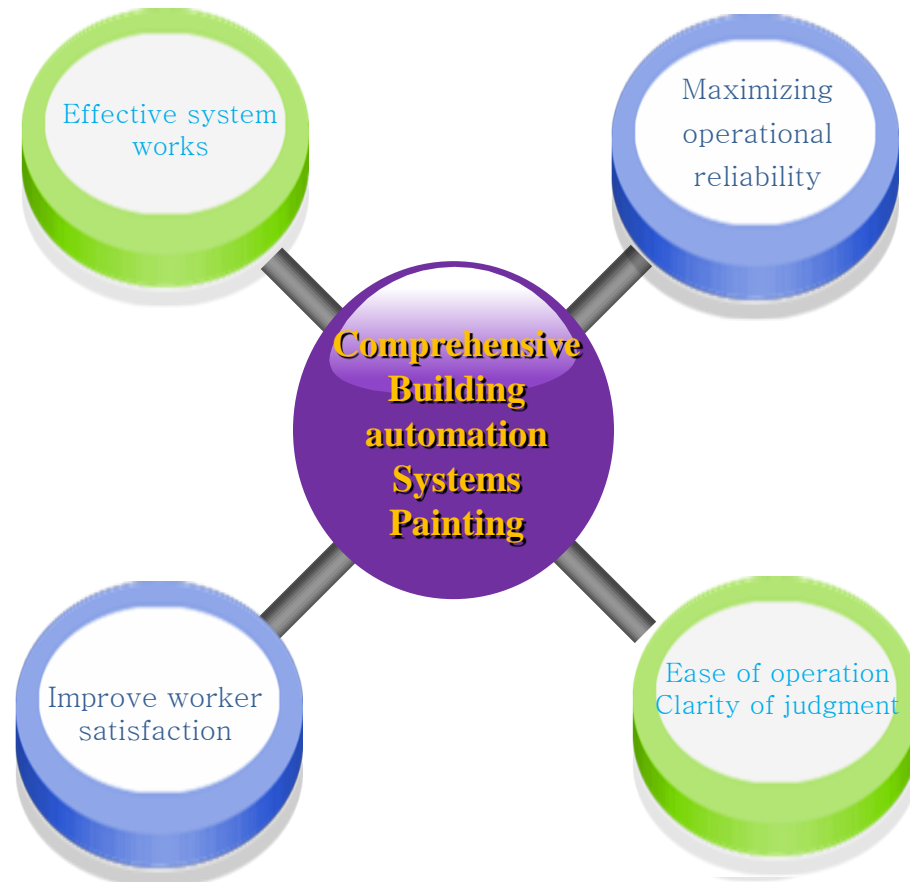


1. System Overview

Color Your Dream

■ The purpose system

The objective of the IVDS is to support customer's efficient production and optimizing competitiveness by offering the outstanding safety. To meet customers requirements, we have included high quality technologies and know-hows in IVDS, and ensure high flexibility and compatibility to the application for the new car production.

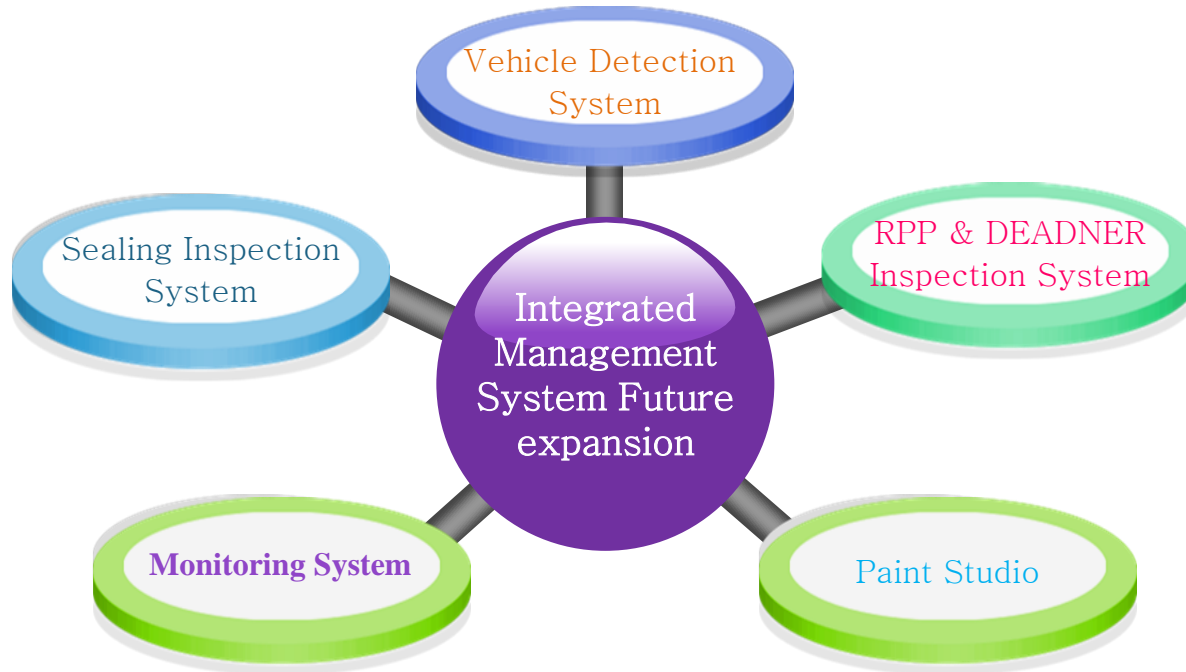


1. System Overview

Color Your Dream

■ Benefit

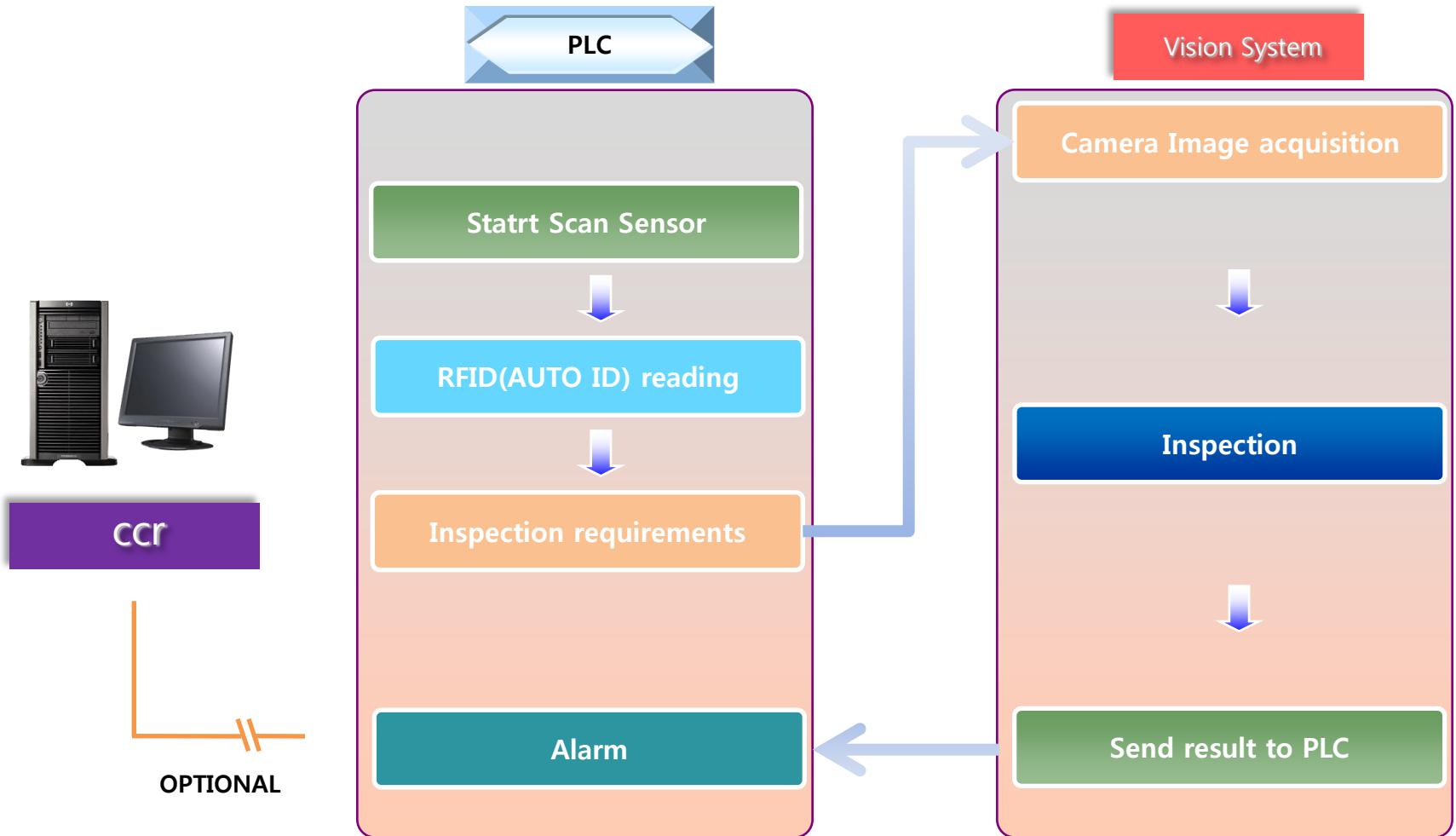
IVDS can prevent robot collisions and defective production caused by misinformed RFID car type detection system.



1. System Overview

Color Your Dream

■ SYSTEM FLOW CHART



1. System Overview

Color Your Dream

Required System Specification

- CPU : Intel(R) Core(TM) i7-4770 CPU @ 3.40GHz
- RAM : 4.00GB
- GPU : Intel(R) HD Graphics 4600
- LAN : Gigabit, LAN PORT 5
- CAMERA : SNB6004(Network camera)
- O/S : Windows XP ~ Windows 7(**Recommend : Windows 7 Professional K Service Pack 1 64Bit**)
- Image Resolution : 640 * 480
- Inspection Option : OFF

단위 : 초

카메라 수	카메라 1대당 티칭 모델 수	총 티칭 모델 수	1차	2차	3차	4차	5차	6차	7차	8차	9차	10차	MAX	AVG
1대	100	100	0.769	0.765	0.757	0.786	0.761	0.768	0.759	0.755	0.745	0.78	0.786	0.7645
	50	50	0.351	0.351	0.353	0.334	0.335	0.396	0.362	0.349	0.339	0.39	0.396	0.356
2대	100	200	1.584	1.564	1.546	1.602	1.57	1.528	1.578	1.564	1.555	1.588	1.602	1.5679
	50	100	0.675	0.694	0.702	0.716	0.736	0.713	0.679	0.727	0.706	0.737	0.737	0.7085
3대	100	300	2.472	2.51	2.512	2.51	2.504	2.487	2.475	2.482	2.482	2.46	2.512	2.4894
	50	150	1.14	1.138	1.142	1.12	1.171	1.141	1.151	1.136	1.134	1.165	1.171	1.1438
4대	100	400	3.568	3.504	3.544	3.629	3.58	3.582	3.575	3.517	3.563	3.581	3.629	3.5643
	50	200	1.737	1.684	1.718	1.743	1.768	1.704	1.71	1.715	1.71	1.732	1.768	1.7221

1. System Overview

Color Your Dream

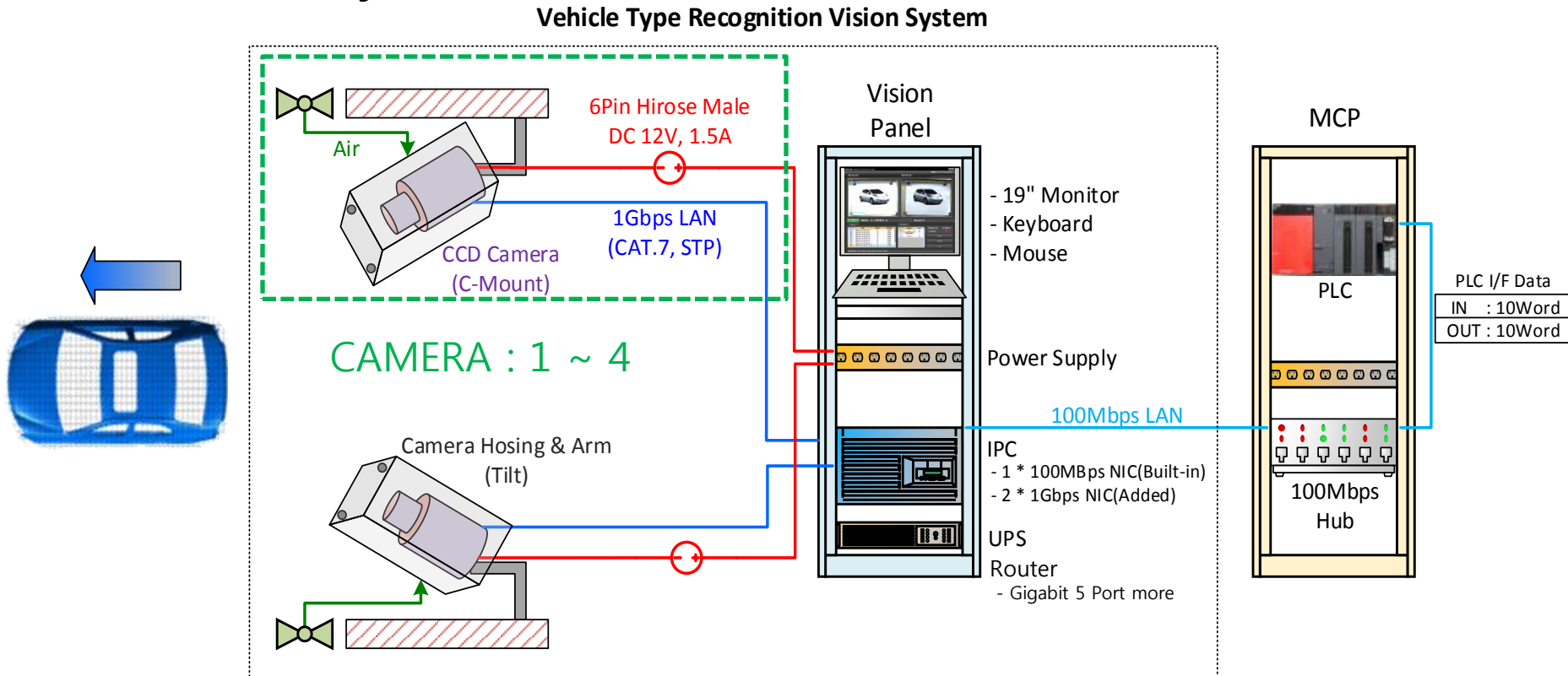
■ Testable type

Location	Type
UnderCoat	Vehicle Type
	Sunroof
	LH / RH
	Electronic
	4WD
Skin Coat	Vehicle Type
	Sunroof
Bumper	Bumper Type
	Front / Rear

2. System Configuration

Color Your Dream

■ Structure of system

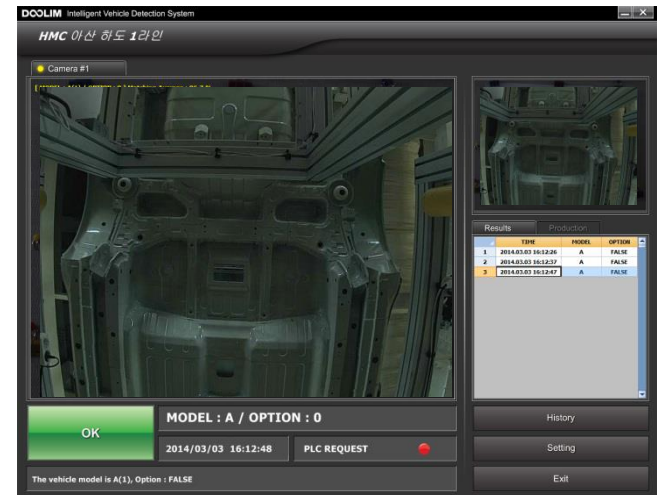
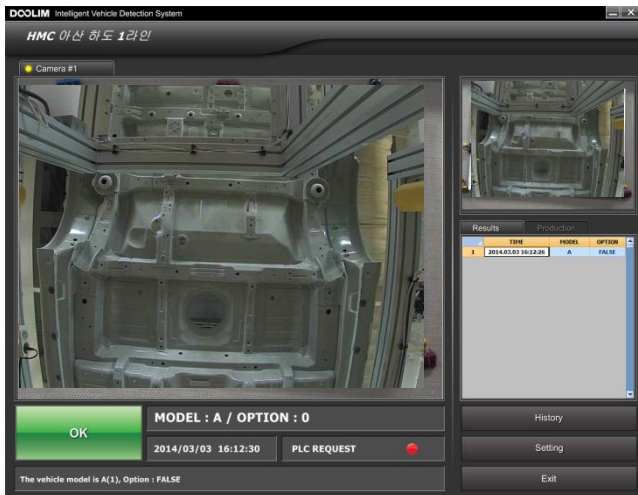


- Camera 1EA ~ 4EA
- According to a recognizable model number of the product (high-end, standard diversification of product group)
- Rugged Camera Case & Jigs

3. System features and functions

Color Your Dream

■ Enhanced algorithms

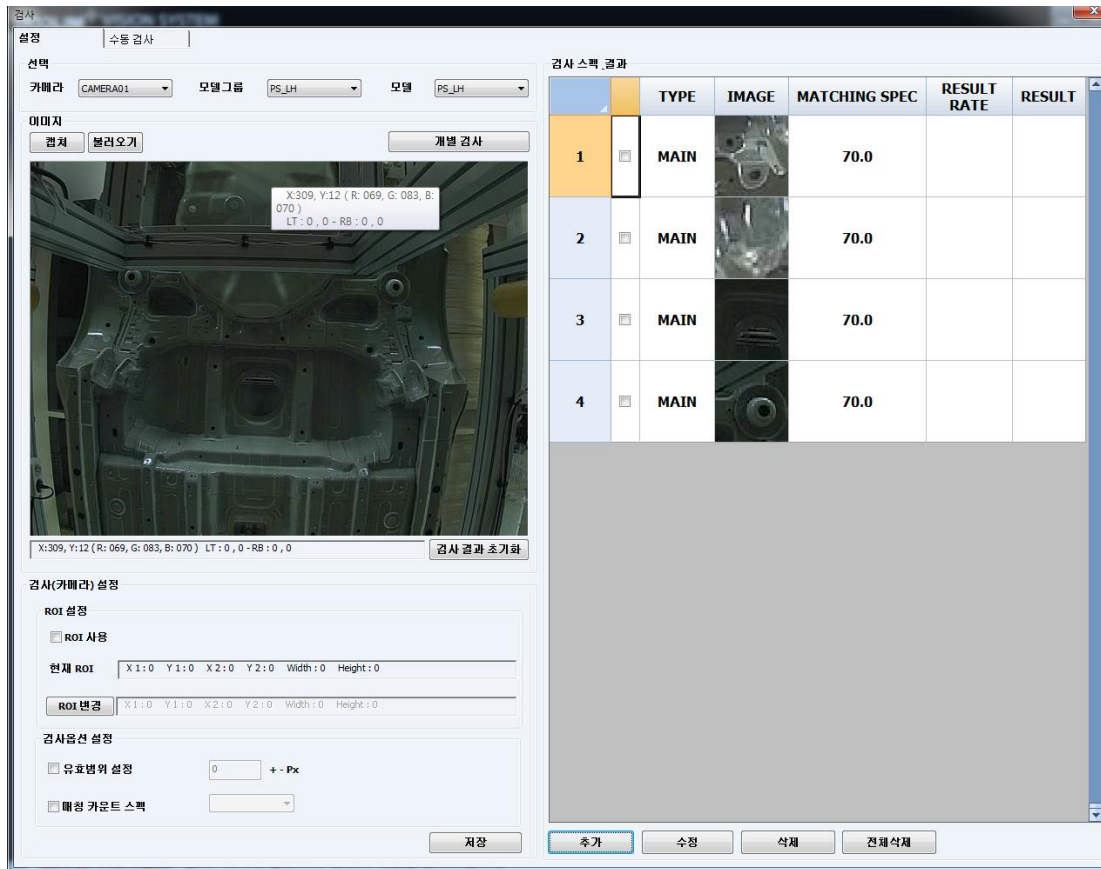


- Robust algorithms to change the brightness.
- Noise Filtering
- It can be changed by varying the detection point.

3. System features and functions

Color Your Dream

■ Inspection performance powerhouse



- Can utilize N matching points (no limitation)
- Can apply different matching rate for each teaching point
- Can improve test performance by setting of test options(coverage area, matching specification)
- Can cover various number of car types through an efficient computing performance with multi-core processing

4. Applications(Bumper)

Color Your Dream



- Ring alarms if position teaching points are different with standard sample.
- Can recognize bumper type.

4. Applications(Bumper)

Color Your Dream

Data



포인트 안착 상태	Point 1	Point 2
0	100.0	100.0
+1	94.0	97.3
+2	86.8	91.6
+3	88.8	93.7
+4	84.8	90.1
+5	81.0	86.9

Install K Company

Color Your Dream



Install H Company

Color Your Dream



DOOLIM *rc*



두림로보틱스는 늘 꿈꿉니다.

누구도 흉내 낼 수 없는 우리만의 컬러로

보다 많은 이들의 일상에 함께하며 행복을 전할 수 있기를...

우리가 '최고'를 향해 전력질주하고 있는 것은 바로 그런 이유에서입니다.

사람과 제품, 사람과 사람, 시간과 공간, 그 벽을 뛰어넘어

전 세계 No. 1이 되고자 하는 두림로보틱스의 꿈,

우리의 삶을 더욱 아름답게 만들고자 하는 꿈의 중심에 바로 당신이 있습니다.



Color Your Dream