

QPS
Quick Response System

Quick Response System

Q3D Vision

<https://www.qrsystem.co.kr>

- ◆ High speed Q3D Vision developed for the first time in Korea
Structured Light Projection

◆ Q3D Vision Main Function

- 1) 3D Point Cloud + Mesh Data
- 2) High- Speed 3D Scanning
- 3) Improved precision by matching 3D drawings
- 4) Hand-eye Calibration



Q3D_IS_3.2(Standard Model)

HALCON
a product of MVTec

◆ Q3D OS 5.0 Ver. Tilt Adjust Function

◆ Q3D Vision



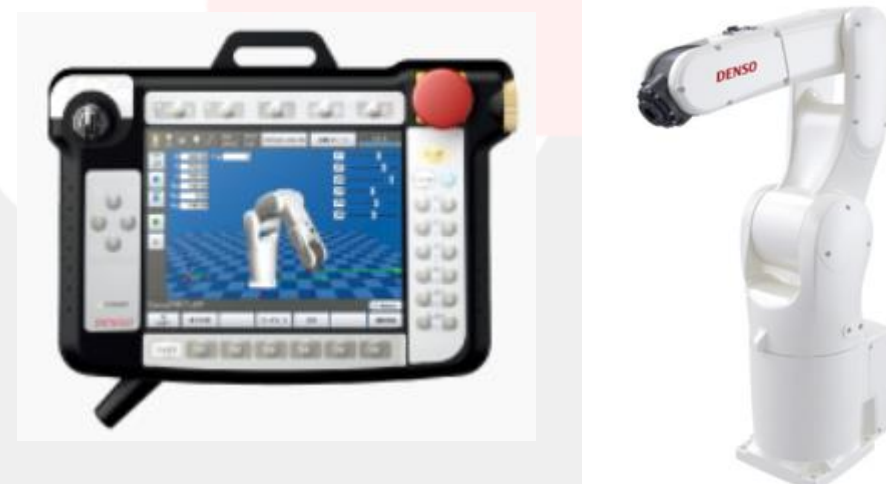
◆ Control PC



↔
USB 3.1

↔
LAN
TCP/IP

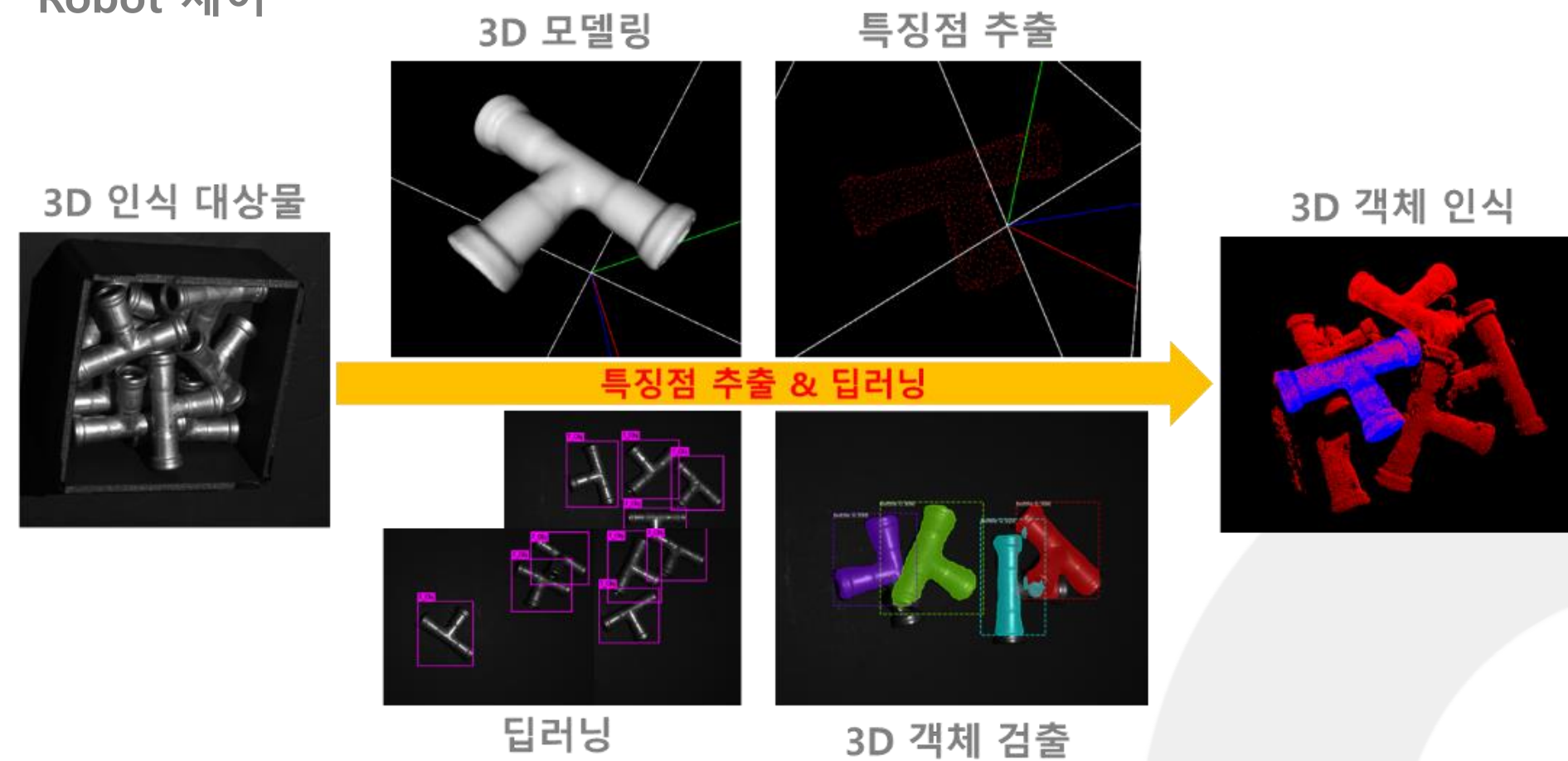
◆ Robot Controller



Q3D_OS_5.0

➤ 3D 객체 인식 기술

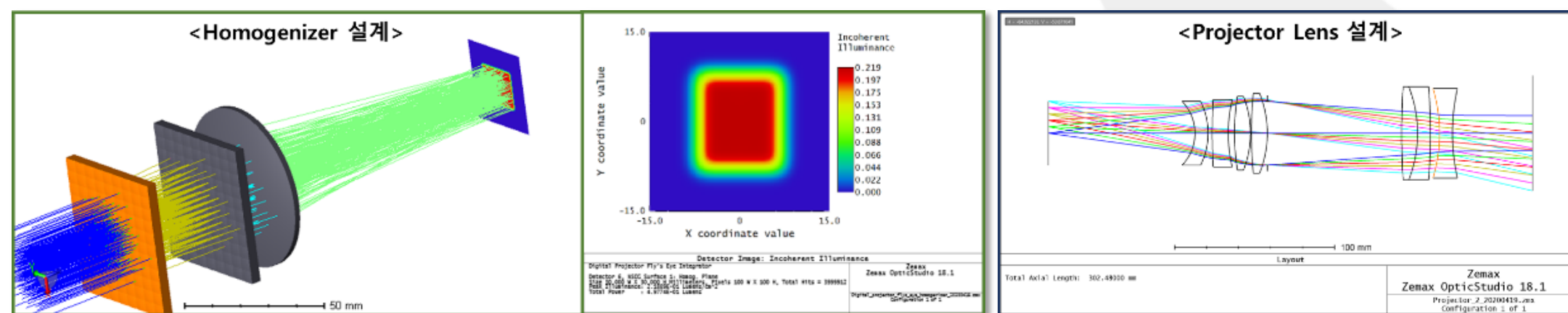
- Projector와 Camera를 이용한 3D Vision System
- Mono & Color Camera 적용 가능
- 딥러닝을 이용한 3D 매칭 기술 적용(베타 테스트중)
- Alignment 기능
- Robot 제어



- 3D Vision용 전용 프로젝터 개발 (진행중)

'20년 창업도약 패키지 사업(창업진흥원) : 3D 빈피킹 비전 모듈

총 사업비 : 1억5천만원



➤ 경쟁사와 차별성

- BIN Picking은 3가지로 구성됨
- 3D 형상을 인식을 위한 비전 시스템
- 인식된 형상을 처리하는 이미지 프로세스
- 사물 분류를 위한 로봇 제어

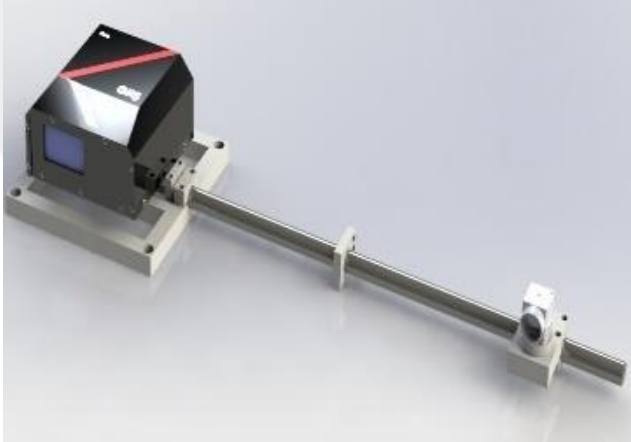


- 3D 인식 프로그램 자체 개발
- 고객 현장 대응
- 고객 맞춤형 대응
- 전문 S/W 인원 보유

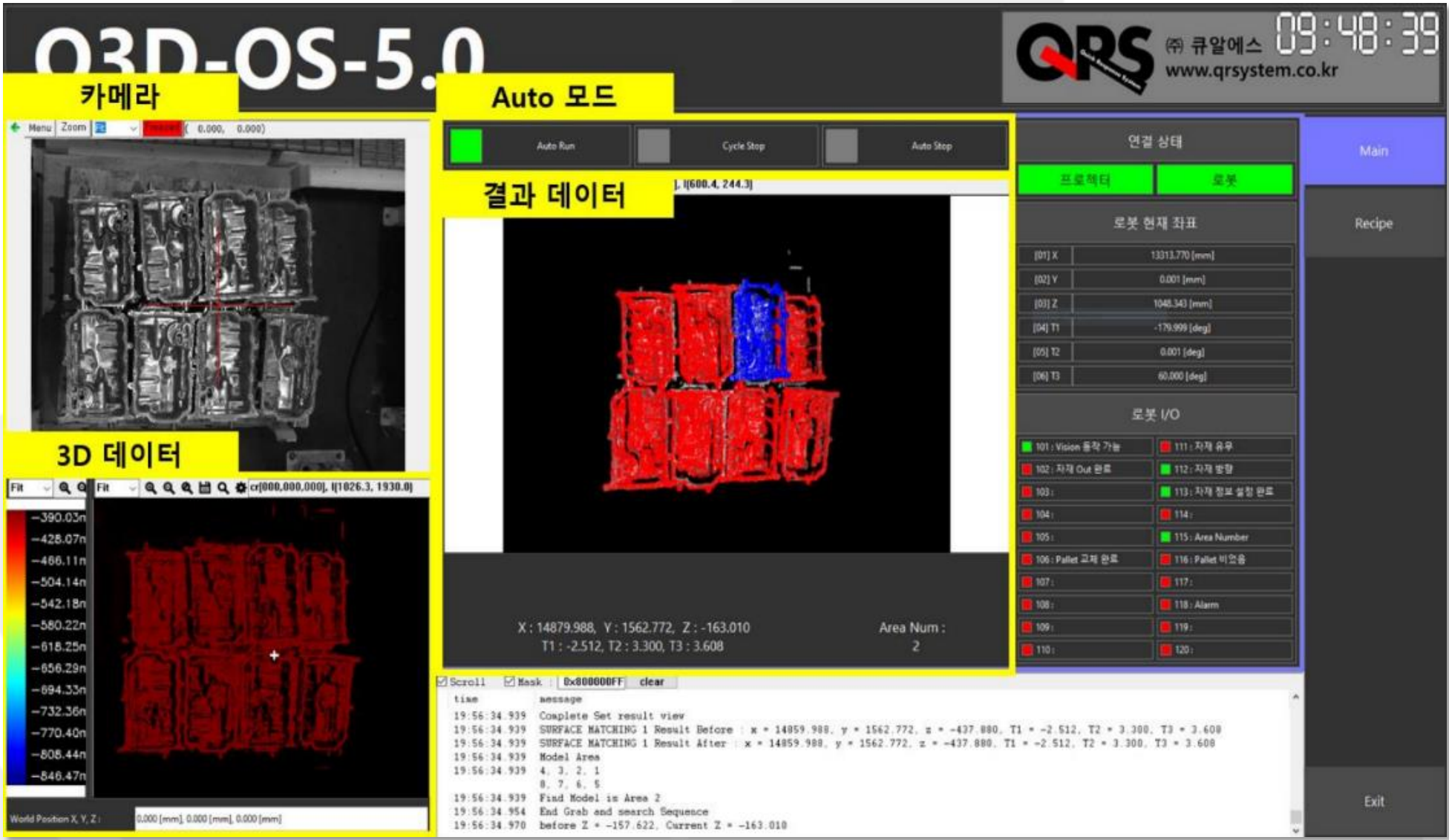
- 3D 인식 프로그램 외주 구매
- 고객 현장 대응 불가
- 고객 맞춤형 대응 불가
- 전문 S/W 인원 부족

➤ Specifications

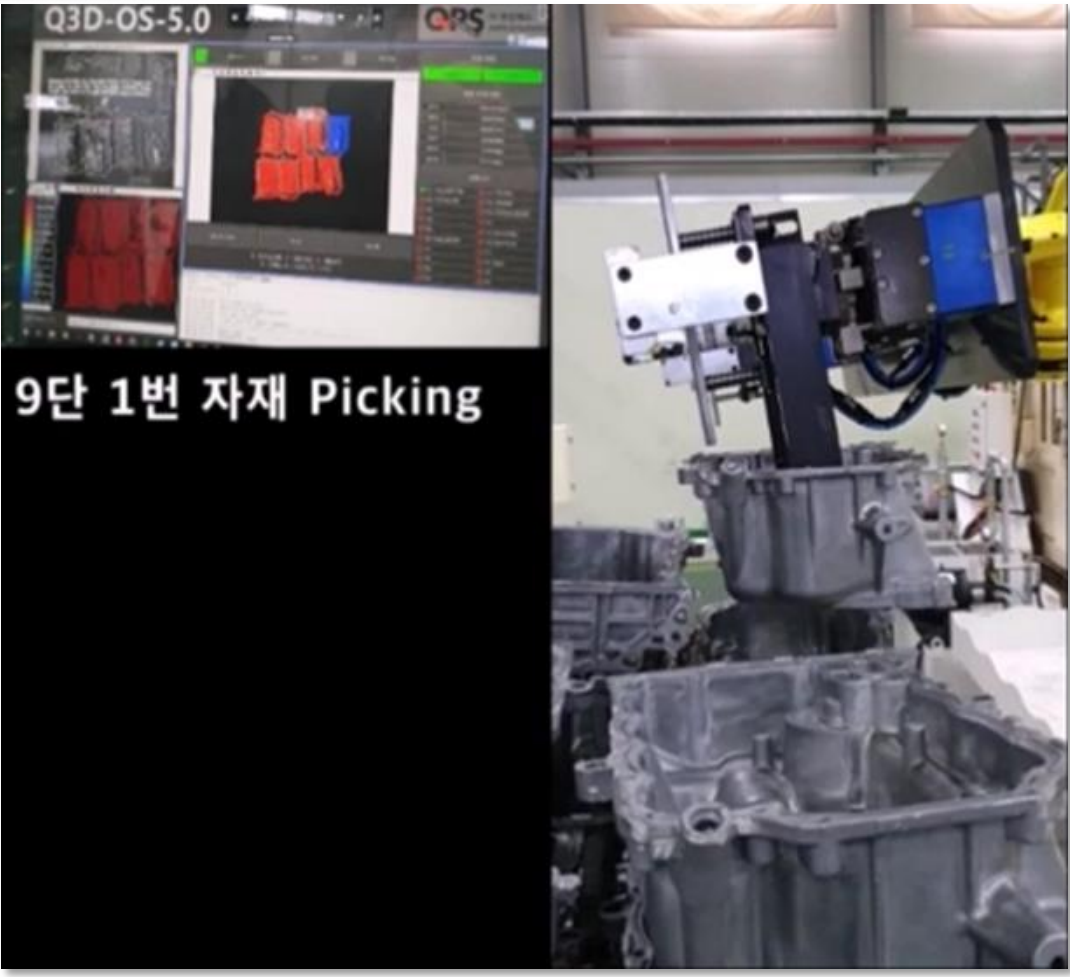
- 3D Point Cloud + Mesh Data
- High- Speed 3D Scanning
- Improved precision by matching 3D drawings

Module	Q3D-IS (근거리용)	Q3D-OS (원거리용)
Camera Pixel	3.2MP (117 FPS) 내장형	5.0MP (75 FPS) 외장형
Resolution(1Pixel)	2048 x 1536 Pixel(3.45um)	2448 x 2048 Pixel(3.45um)
Scanning Range	176x132 ~ 706x529mm	Max: 1100x1100x1200mm
Working Distance	300 / 600 / 1200mm	Max : 3300mm
Scan Time	< 0.3sec	
Scanning Technology	Structured Light Projection	
LED light Lumens	RGB LED light engine with 700 Lumens light output	
Design		

<Main User Interface>



<HandEye Calibration>



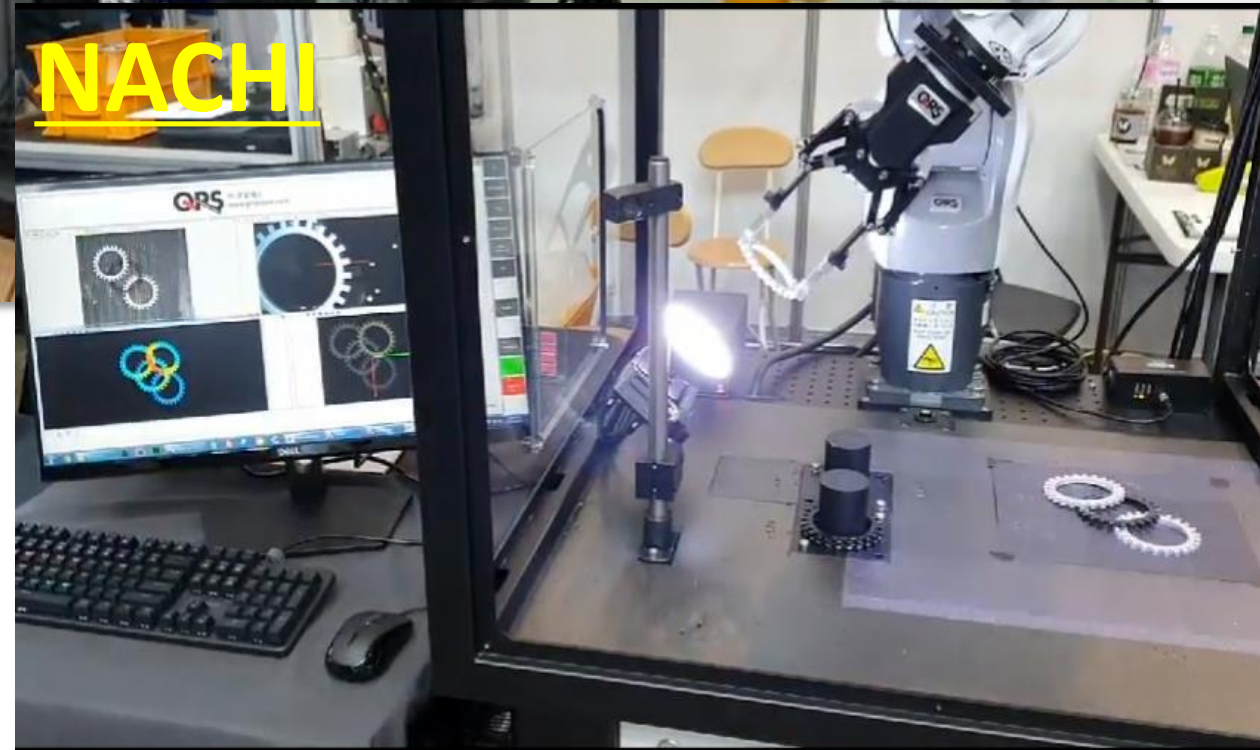
<Robot 3D BIN Picking>

➤ Application

- 3D BIN Picking
- 3D Modeling
- 3D Matching
- 3D Measurement

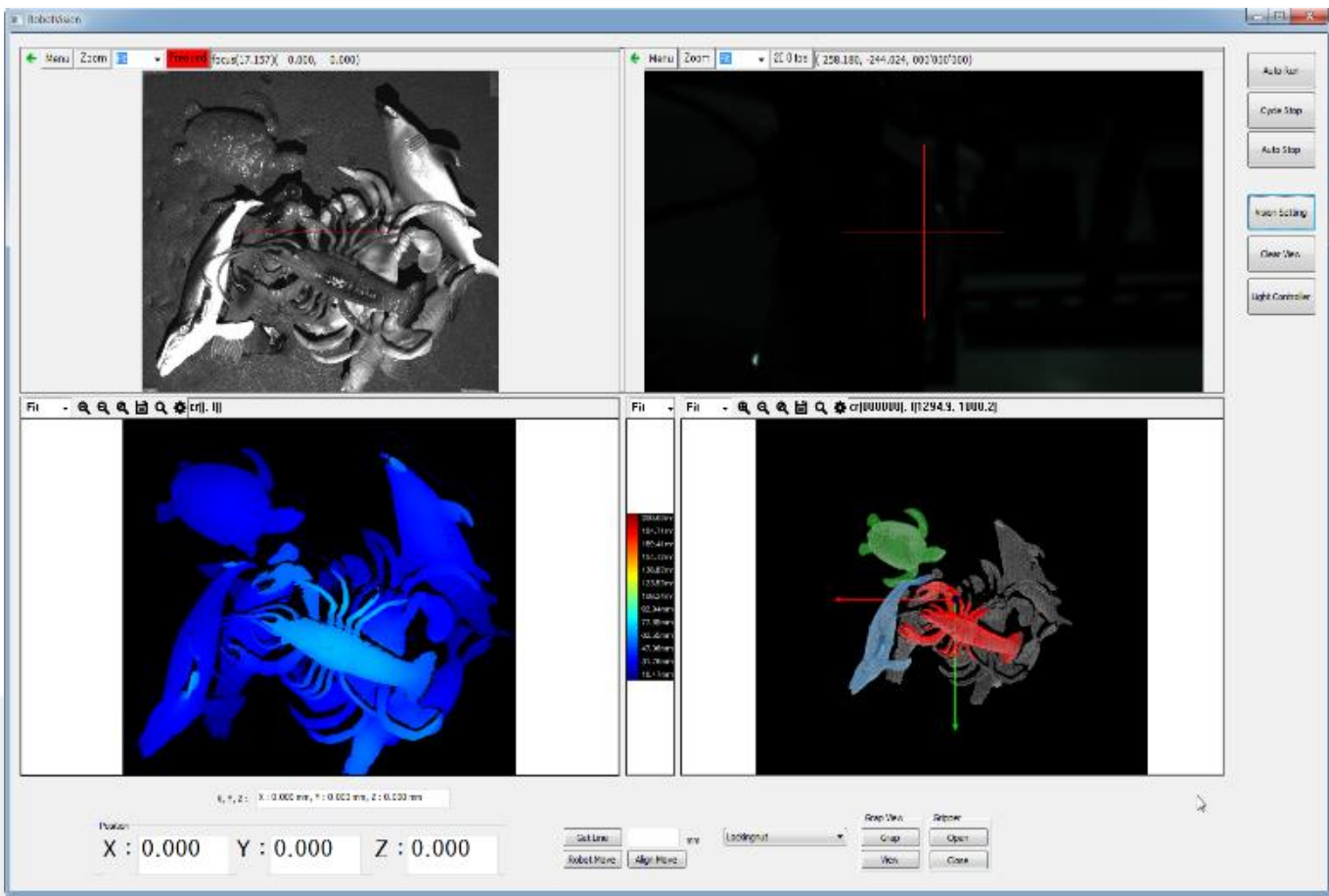


Universal & Stäubli

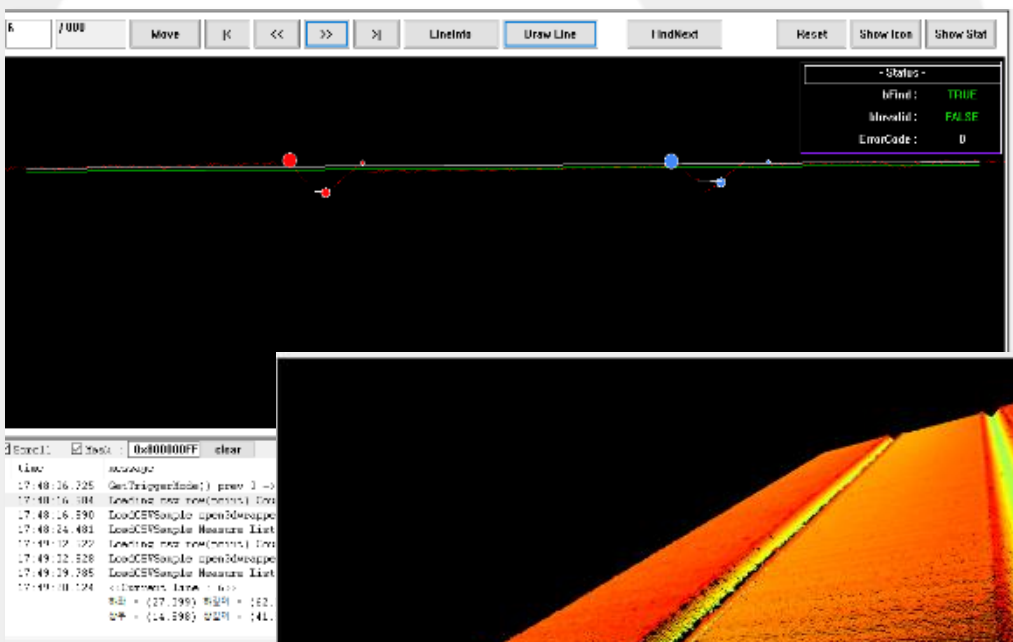
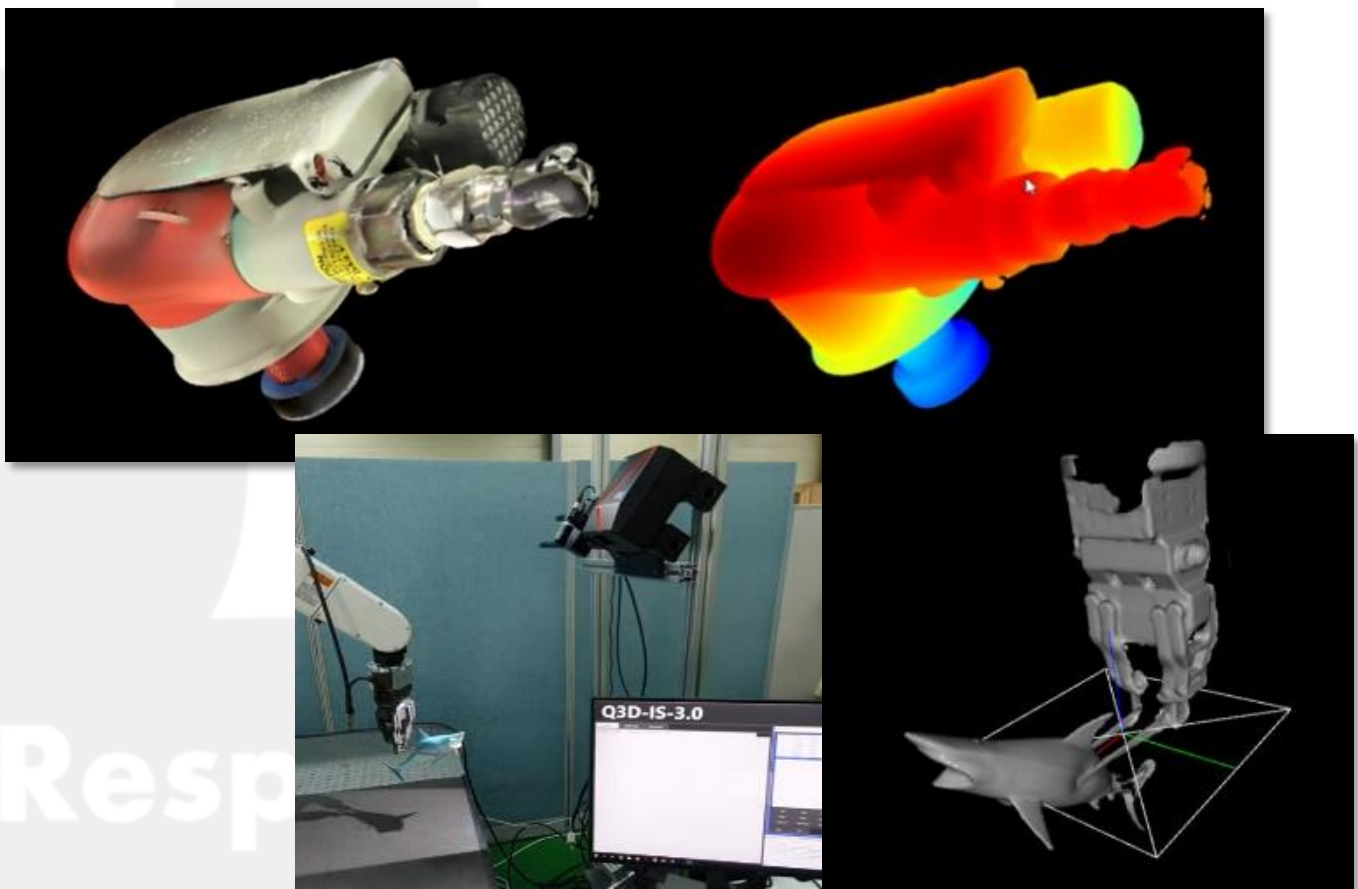


NACHI

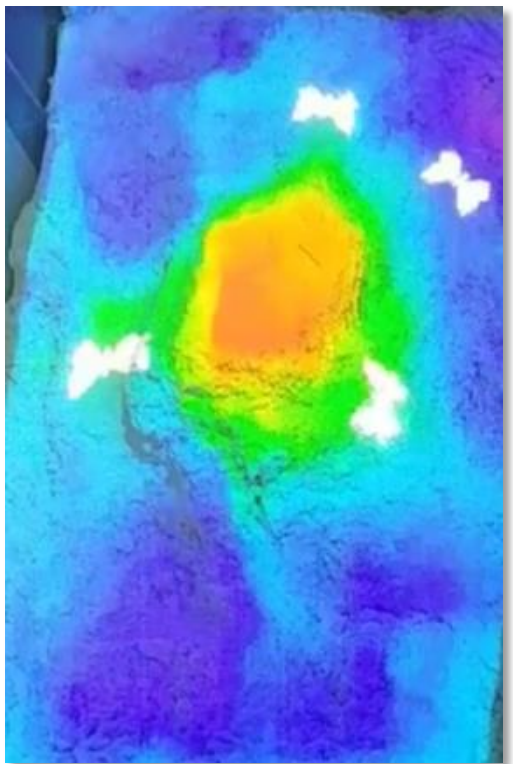
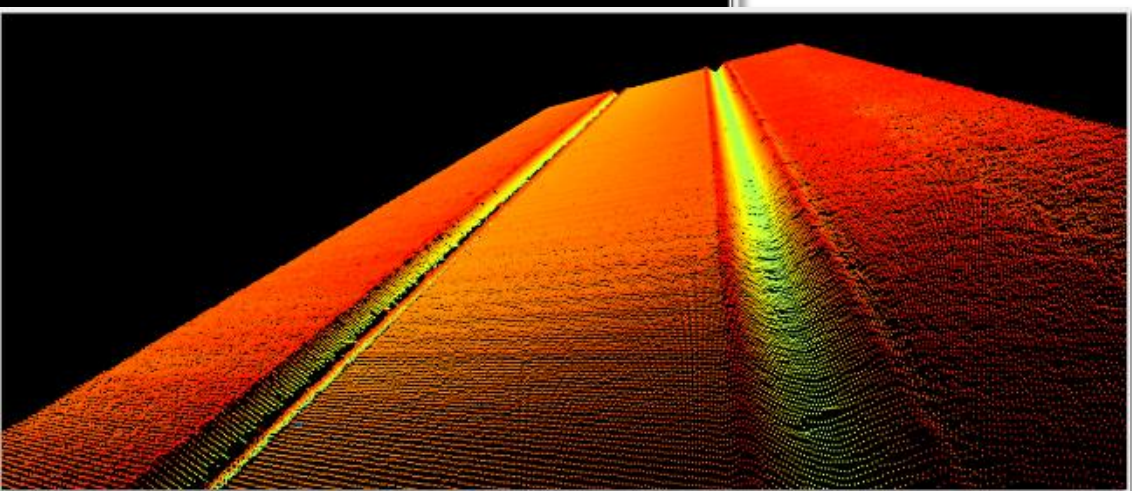
<Multi Model 3D Matching>



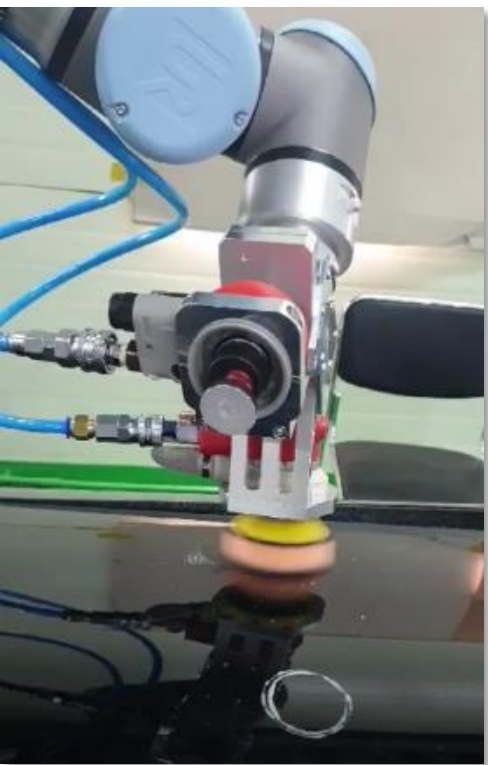
<3D Modeling>



< 라인레이저 3D 스캐너 사용 높이 측정 >



<Depth Cam + 프로젝터>

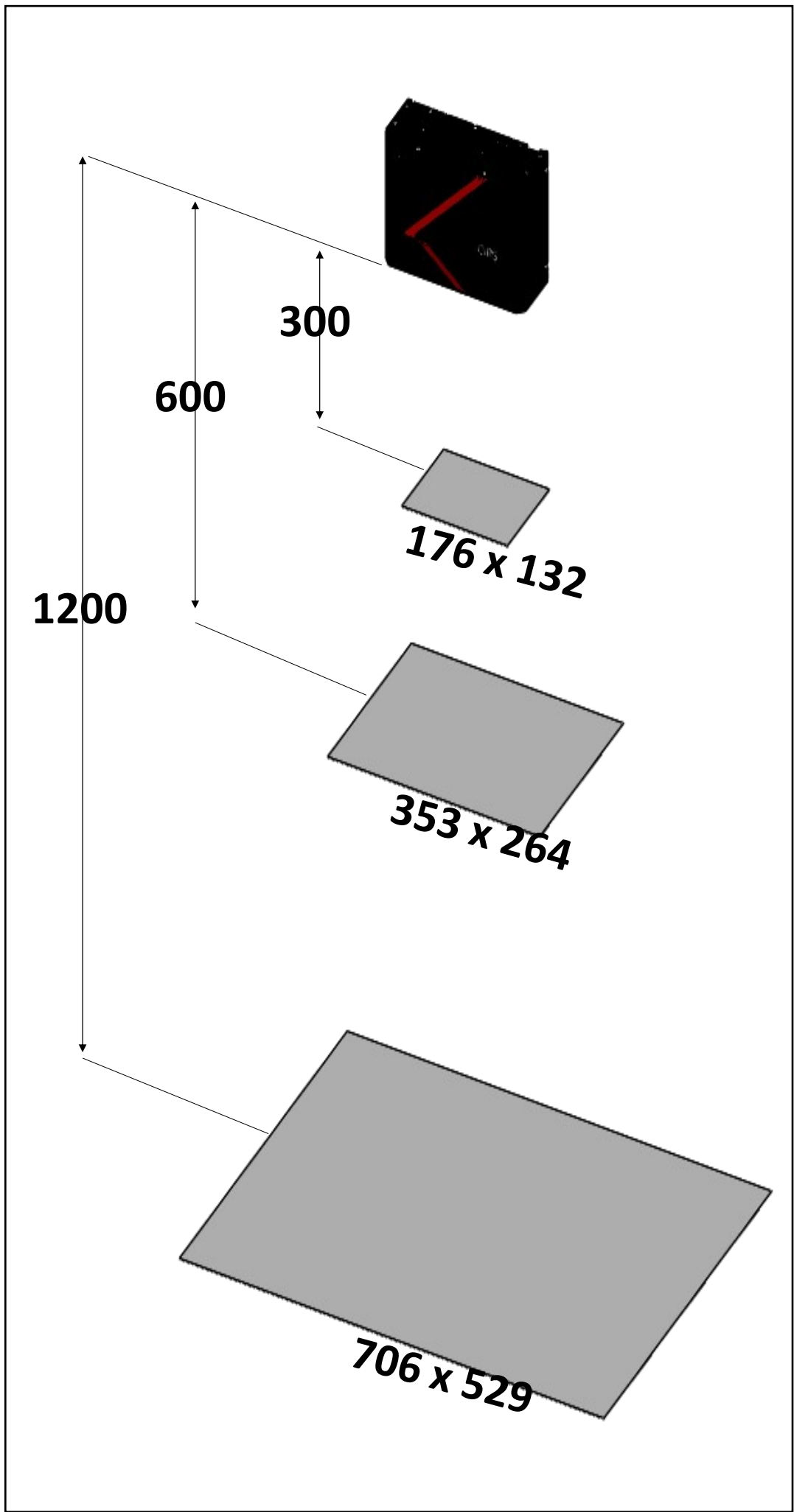


<자동차 표면 3D 검출 및 폴리싱>

Q3D Vision Model Specification

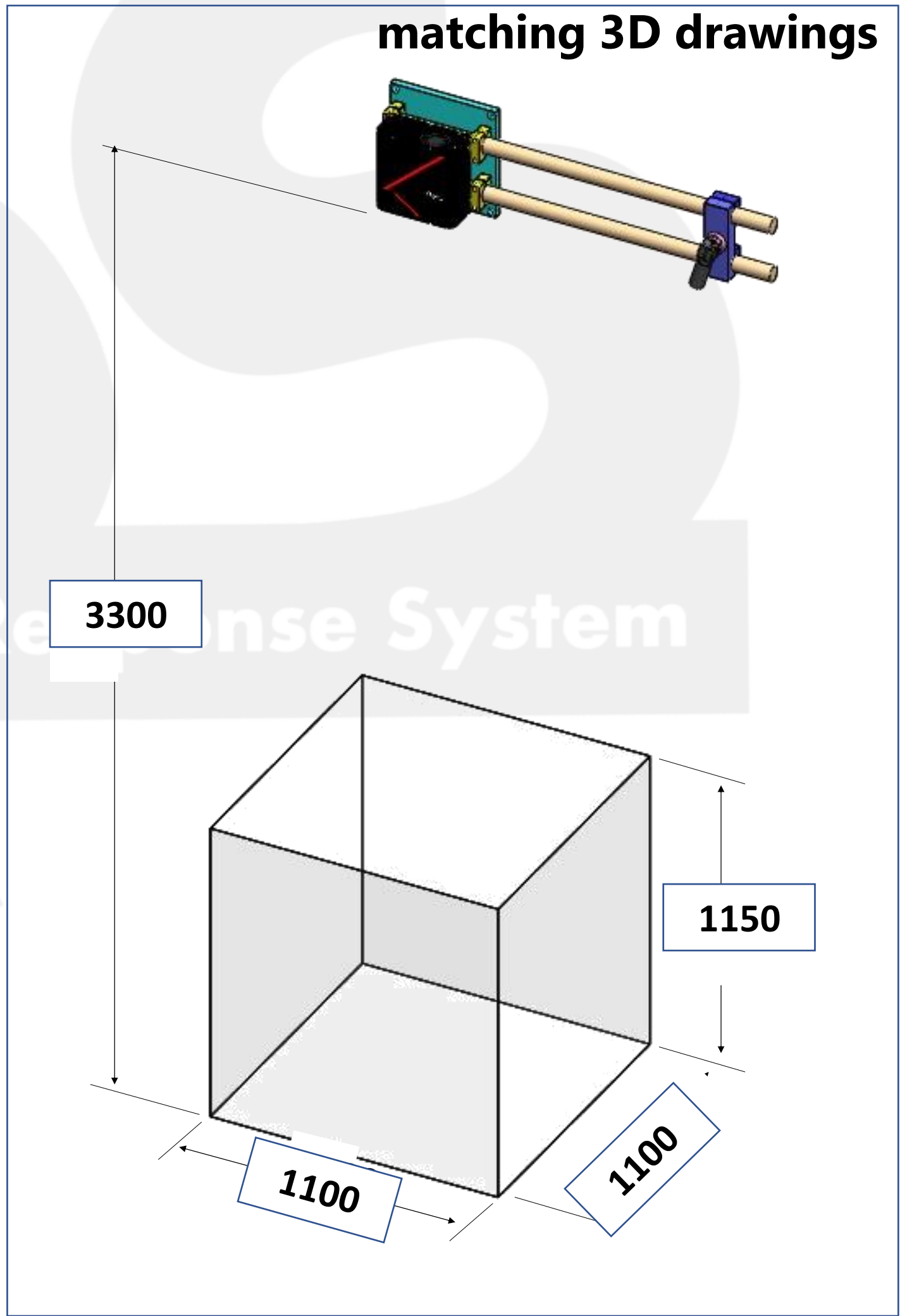


❖ Q3D_IS_3.2(Standard) FOV



3D Vision Specification		
Module Name	Q3D_IS_3.2(Standard Model)	Q3D_OS_5.0
Camera Link Type	3.2MP (216 FPS)	5.0MP (163 FPS)
USB Type	3.2MP (117 FPS)	5.0MP (75 FPS)
Resolution(1Pixel)	2048 x 1536 Pixel(3.45um)	2448 x 2048 Pixel(3.45um)
Scanning Range	176x 132~706 x 529mm	Max: 1100 x 1100x 1150mm
Working Distance(mm)	300/600/1200	Max:3300
Spatial Resolution(mm)	0.5 ~ 1	3~5
Scan Time(s)	< 0.3~	
Scanning Technology	Structured Light Projection(구조광)	
ccA light Lumens	RGB LED light 700 Lumens	
Robot to PC Connection	USB3.0	
Dimensions(mm)	232(W) x 160(D) x 80(H)	162(W) x 160(D) x 80(H)
Power	Project : 12V, 6A / Fan : 12V, 0.5A	
Weight	Within< 3Kg	
Safety & EMC	CE / KC	
Operating Temperature	0℃ to 40℃	

❖ Q3D_OS_5.0 FOV



Thank you

Quick Response System

For more information

Visit: <https://www.qrsystem.co.kr>