

MVG-AnDetPilotPlatform

Demonstration Platform for Anomaly Detections

The *demonstration platform for anomaly detections* is a modular platform developed by our group. The platform consists of a rotating table on a honeycomb optical breadboard. The rotating table is designed to simulate an industrial conveyor belt. The platform enables us to automate image acquisition and of the desired objects and to test the processing methods in a realistic environment. For general specifications refer to Table 1.

MVG-ANDETPILOTPATFORM	
OVERALL DIMENSIONS	(440 x 440 x 350) mm
OVERALL WEIGHT	Approx. 10.5kg (depending on configuration)
ROTATIONAL SPEED	33,3 rpm
ROTARY TABLE DIMENSIONS	(ϕ 400 x 9) mm

Table 1. MVG-AnDetPilotPlatform general specifications

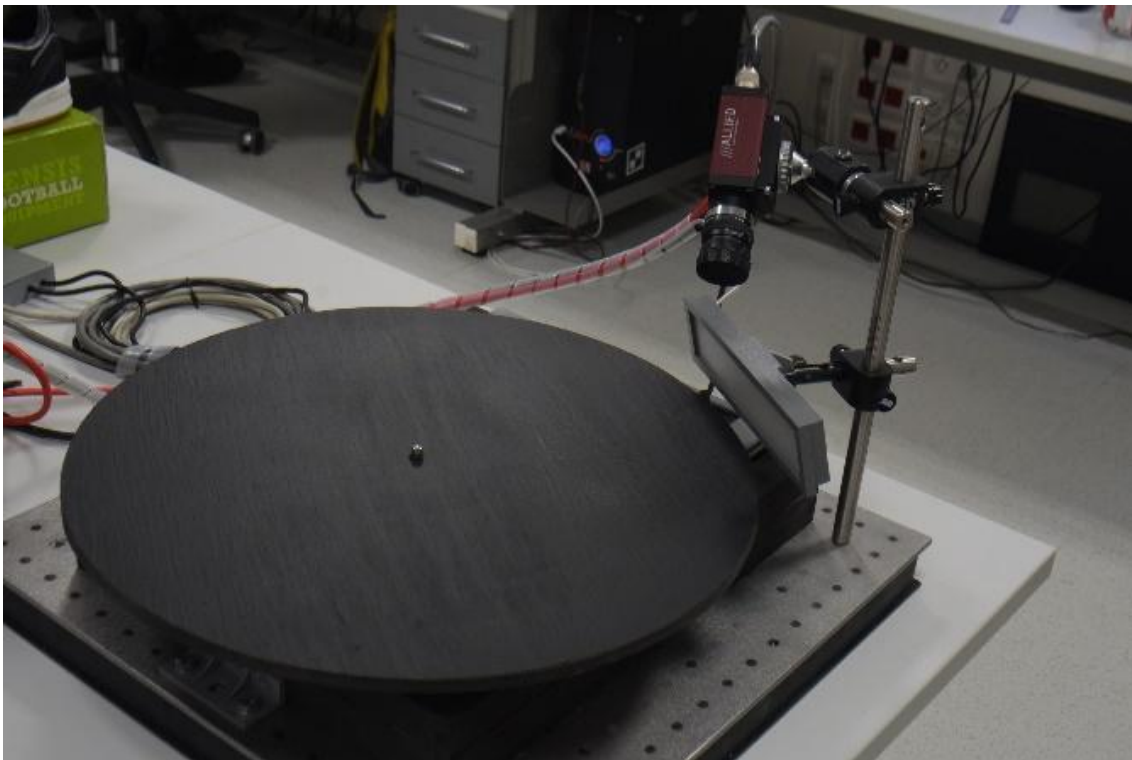


Fig. 1. Overall view on demonstration platform for anomaly detections

The entire platform is built on top of a universal honeycomb optical breadboard (M6 thread, 25mm pitch), which allows the configuration of the measurement equipment to be altered to suit needs of a particular measurement in a modular fashion. The rotating table itself has several different interchangeable covers in order to simulate different surfaces or types of conveyor belts e.g. wood, metal or rubber.

Sensors and lighting

The lighting is composed from one light source (LED belt) and a diffuser to create suitably soft illumination. The illumination intensity is manually controllable.

Image acquisition is performed by one camera Allied vision MANTA G-125B attached on a universal mount. The camera is presently positioned to capture the object at an oblique angle, however the pose and position of camera (or multiple cameras) is fully configurable either in respect to the photographed object or to the on-board lighting.

For camera and lighting specifications refer to the tables below:

ALLIED VISION MANTA G-125B	
SENSOR	Sony ICX445
SENSOR TYPE	CCD Progressive
SENSOR FORMAT	1/3"
RESOLUTION	1.23MPx
LENS MOUNT	C/CS mount
FILTER	IR cutoff
COMMUNICATION INTERFACE	GigE

Table 2. Allied Vision Manta G-125B

LED BELT	
LED TYPE	60 x 5050/m
TEMPERATURE	cool white
ELECTRIC POWER	14,4W/m
POWER SUPPLY	12 VDC (controllable)

Table 3. LED BELT

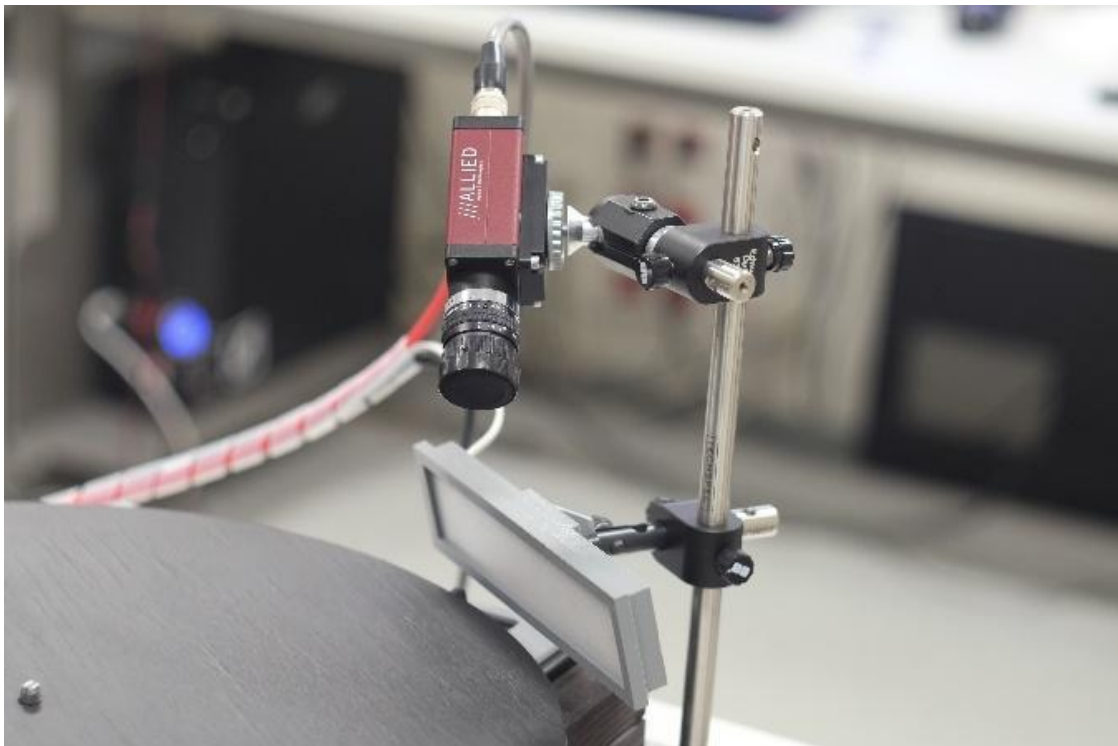


Fig. 2. Camera and lighting detail