FLEXIscan

www.vjcontrol.eu

Smart logistics plant Industry 4.0 management system

Created by: Branislav Anwarzai,
VJ control, s.r.o.

Industry: Logistics

Proposal:

Efficiency

The most important topics in delivery business is the decrease time to delivery and overall costs per package as well as security issues related to package content.

Optimization

These parameters are strongly dependent on perfectly optimized processes, prevention of machine failures as well as minimizing the human contribution in respected processes.

Customer requirements

Our customer requirements were pointed to monitor parameters related to package processing in depos, automated package tagging and velocities more than 12m/s, IoT measurements of machine related parameters, CCTV with object tracking and identification feature as well as

From beginning of project, the conditions per receiving lot were as follows:

- More than 0,000023% of packages were lost
- More than 0,102% of packages was repeatedly processes due to human mistakes
- Package tagging was performed only by human
- Conveyer belt monitoring was performed by humans by following service manuals
- Conveyer blocking situation occurred

FLEXIscan

www.vjcontrol.eu

Solution

Our approach to solve these problems was as follows:

We used our IoT Edge Embedded Server as machineperforming sensorinterfacefor conveyerstate monitoring

For tagging the packages we used our cmos high speed camera with image analytics features to perform automated scanning

We equipped monitoring department with our Windows/Web based application to monitor all relevant parameters as well as with triggers and thresholds with predictions

Package as an object was identified with more than requested parameters by our intelligent FlexiCam cameras which can perform measurements like dimensions, package temperature, surface humidity, colors, signs as well as content identification by meaning of ferromagnetic or biological matter

Implemented system can perform continuous machine learning actions based on human evaluation scoring system and increasing probability of identification with each processed package

Security requirements were scored by above mentioned methods with adding available and prohibited regions of operator duties

Package counts, checking and reporting were performed by intelligent CCTV cameras with our server image processing software connected to windows software budle

FLEXIscan

Results

Autonomous package tagging and monitoring system

More than 9 of 10 lost package were identified by our system and reason tracking

Intelligent CCTV camera decrease time spent in prohibited area up close to 90%

Our customer change lot of processing because of rich realtime feedback

Due to implementation of autonomous processing the monitoring department reduced necessary people

Due to rich reporting system and process analysis significantly reduced time to report

Future features and outcomes:

- Machine operational uptime and running conditions optimization by meaning of electrical consumption and machine usage
- Probes for high precision of package content identification
- Automated service to machine communication and reporting system

CONTACT US
+421 948 275 271

Mojs 139 , 010 01 Mojs
Slovakia, Zilina