inspired by
TUM: Junge Akademie
BMW
Team 1

CURRENT PROBLEMS

Identifying the Bulk Parts

Mistakes during Assembling

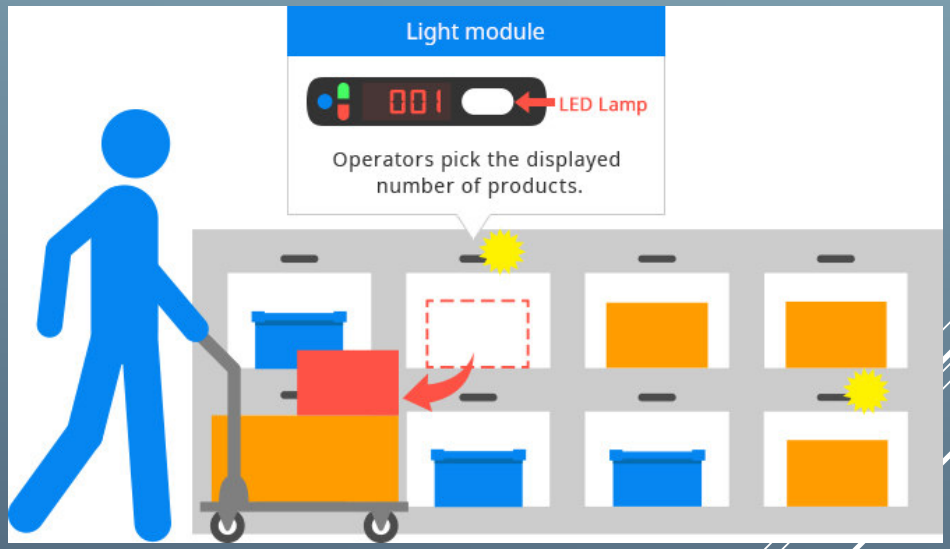
Wrong Parts in finished Product

CURRENT ALTERNATIVES

ProGloves

Bulk Parts cannot be tracked

Pick-To-Light Devices

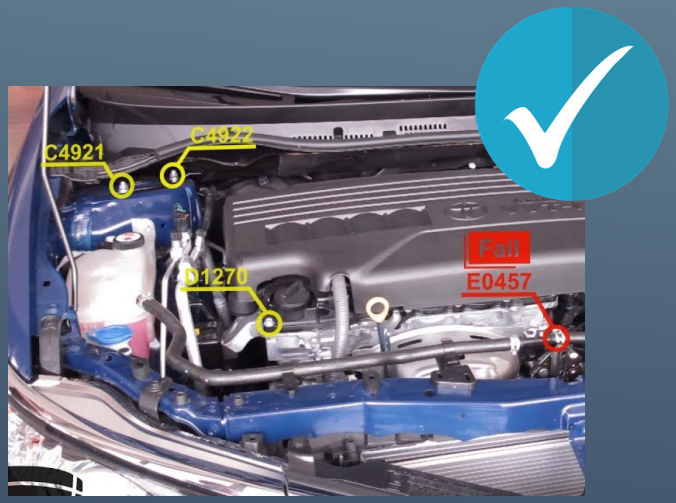


Many alternatives to choose from leads to wrong decisions

OUR SOLUTION

Sorting of Bulk Parts

Intelligent Bulk Parts Dispenser
Worker receives at each assembling step the right bulk part.
(+ validation with camera)



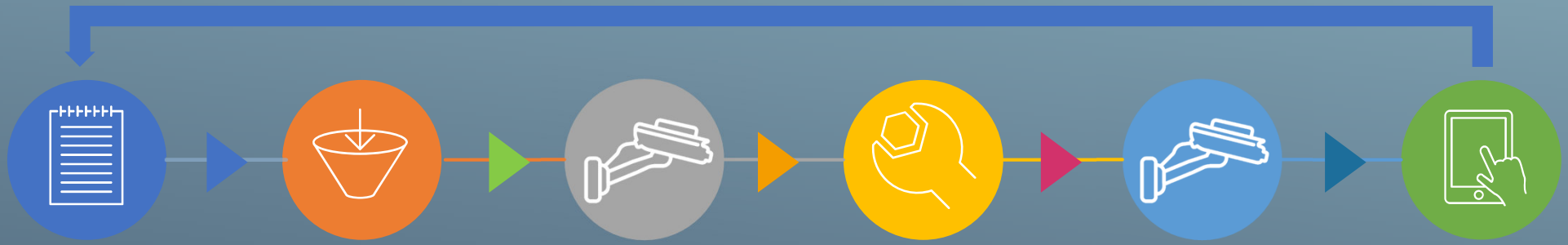
Instructing where to Assemble

Projection on to Assembly
Project the location of where the bulk part should be mounted

Quality Check

Image Recognition
Detect if the piece was mounted at the right location

WORKING PROCESS



New task

Task extracted from BOM: Worker needs to assemble a new part

Dispense parts

Worker is given exactly the needed parts

Beamer guide

3D projection on car guides worker to point of assembly

Worker builds in part

Can request spare parts through wearable if necessary

Visual Confirmation

Camera confirms correct assembly and lights up new part

Worker wearable input

Worker can confirm assembly in case of camera fail

BENEFITS

Easy to Implement

Low Cost

Facilitates assembling process

Reduces Errors with Immediate Feedback

Digital Documentation

OUR TEAM

Luis Onuma

Mechanical Engineer

Yuhan Qi

Data Analyst

Sven Opgenorth

Business Developer

Raul Abdurakhmanov

Software Developer

Anton Smirnov

Software Developer