



## Use Case

### Quality Control - Battery QC

#### NEED

- Detect defective batteries at several stages during manufacturing, esp. batteries that pass final inspection but discharge within minutes when used
- Defect classification to aid root cause analysis

#### OUTCOMES

- Increased accuracy to 99.996%
- Models found new defect categories that allow better diagnosis of upstream issues
- Inspection of 100% of batteries at line speed possible, model can accommodate increase
- Up to 85% savings in hardware cost
- Flexible algorithm adjusts for changing manufacturing conditions

**CUSTOMER:** Leading Manufacturer of Primary Batteries

#### CHALLENGES

- The high speed of manufacturing line requires an OK/NOK call and a defect classification to be made every 50 milliseconds.
- Very high degree of accuracy

#### SOLUTION

- Four-camera system that collects data of critical stages in manufacturing for each production line
- AI-model to analyze images, detect defects and automatically notify the PLC to scrap defective units.

#### PROCESS

- Collection of 1,000s of images and defect classification with the help of internal experts
- Use of image library to train first an OK/NOK model and subsequently a defect classification model
- After deployment, the built-in reclassification tool of the AI-Bot is used for continuous training of the model to improve accuracy further

#### Contact

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