AIT Goehner
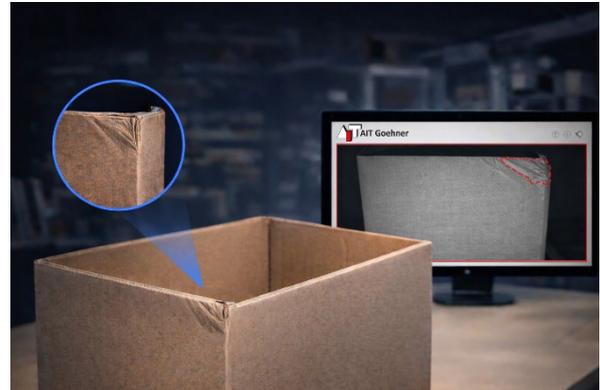
Sustainability through innovation - rethinking packaging!

With **AIT ReBox Check**, we are revolutionizing the handling of empty cartons from returns. Our intelligent AI solution enables automated inspection of over **1000 empty return cartons per hour**. By checking for reusability - from all six sides and even from above for remnants such as snippets or staples - we make an active contribution to conserving resources.

Our aim: To identify reusable cardboard boxes and bring them back into the cycle

The result: Less waste, lower costs for new packaging and a sustainable use of resources

How it works

- **High-precision inspection:** The system uses state-of-the-art AI machine vision to analyze damage such as tears, dents, moisture or unstable adhesive tape.

- **Smart sorting:** defective cartons are automatically sorted out, while reusable cartons are sent to a buffer store.

- **Residual stock detection:** Automatically detects residues such as snippets or staples.

- **Barcode check:** Reliably reads and checks barcodes, even at high speeds.
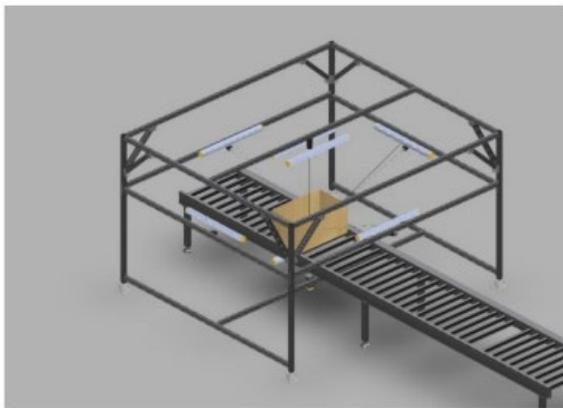
Technical highlights

- **Capacity:** Inspection of up to **1250 cartons/hour** on a conveyor belt at **0.65 m/s.**

- **Camera systems:**
    - **5 megapixel cameras** for inspection from all sides.
    - **Line scan camera** for bottom side inspection.
    - **3-megapixel camera** for color inspection.

- **AI technology:**
    - **VisionPro DeepLearning** for pattern and defect recognition.
    - **Adaptable algorithms** that can continuously learn new defect classes.

- **Software:**
    - **AIT EasyPlus** controls the cameras and interfaces.
    - **Integration** into existing ERP and MES systems possible.

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Smart Vision. Innovative Solutions.

Areas of application

- **Logistics:** Automated inspection of returned cartons in central warehouses.

- **Consumer goods industry:** Efficient inspection of packaging with high returns.

- **Textile industry:** Sustainable packaging processes through cardboard recycling.

Procedure of the system

1. **Delivery of empty cartons** from the production site to the central warehouse.

2. **Automated transport** oft he cartons to the inspection system.

3. **Inspection using 6 camera perspectives** with real-time evaluation:

   o **Good:** Karton is channeled to the buffer warehouse and used fort he next transport.

   o **Bad:** Karton is sorted out and disposed of properly.

Advantages at a glance

✔️ **Sustainable conservation of resources:** Reduction of packaging waste and repackaging costs.
✔️ **Automatied inspection:** High quantities with very short cycle times.
✔️ **100 % precision:** Complete inspection from all sides.
✔️ **Flexibility through AI:** Customizable algorithms and thresholds for maximum efficiency.
✔️ **Cost savings:** Reduced returns and optimized logistics processes.
✔️ **Environmental protection:** An active contribution to a greener world.

Rethinking packaging with AIT ReBox Check!

We help you enhance quality while reducing costs at the same time.
Get in touch for a non-obligation consultation: sales@ait.de

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