IoT is Driving the Future of Supply Chain Management

Presented by:
Scandit
Presenters

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CTO & Co-Founder
Scandit
Objectives

• How to transform smartphones equipped with computer vision software into enterprise-grade barcode, text and object recognition tools

• How to extend IoT applications to everyday supply chain objects

• How to bridge the gap between the real and virtual world in the supply chain
Computer Vision Will Extend the IOT Paradigm To Everyday Objects

Traditionally, IOT is all about connected devices with embedded computing capabilities. Camera based vision technology brings the benefits of IOT to the world of everyday objects.
Impact for Supply Chain Management

• Cost impact
  • Reduce manual labor associated with scanning, picking, receiving, sorting etc.

• Reduce errors
  • Identify errors (semi-) automatically
  • Alert employees pro-actively
“Non”-Evolution of Data Capture Hardware for the Worker
Smartphones in the past 10 years...

**UBIQUITOUS**
- x10 Global Smartphone Sales

**GREAT CAMERAS**
- x30 Higher Resolution

**POWERFUL**
- x300 GPU Performance
30x Higher Camera Resolution

2013
Galaxy S4
700 USD

2017
Galaxy J5
150 USD
Next Generation Data Capture
More Efficient Inventory Scans

Setup

Time [seconds] to complete 25 barcode scan

>3x Efficiency Improvement
Verification Prior to Delivery
Pick Verification With Visual Feedback

Less Errors – Fewer Returns
Scanning Store ID
Scan Text in Real Time and Without Errors
Search and Find

**SOLUTION**
Locate packets in a delivery vehicle or warehouse quickly with smart devices.

**IMPACT**
Workers spent less time searching for items.
SOLUTION

Multi-scanning reads multiple barcodes at once, while Augmented Reality feedback instructs where parcels should go.

IMPACT

Faster sorting, fewer errors, minimal training needed, temporary workers enabled to sort.
NACEX: Proof of delivery app for drivers
Leading Spanish delivery company – a member of Logista Group

BYOD in harsh environments.
Augmented reality to find parcel inside van.
5 million barcode scans monthly
Augmented Reality Instructions

**SOLUTION**
Augment physical labels with virtual instructions to display real-time information

**IMPACT**
Workers can operate more efficiently
BMW Innovation

Augmented Reality to support Quality Assurance

Datalogger exceptions directly shown on part.

Immediate digital interaction with part possible.
Label Verification: Barcode + OCR

Red = Incorrect Price  
Correct Price Overlaid
## Label Verification

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
</tr>
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<tbody>
<tr>
<td><strong>(1)</strong> Receiver: MAYR WERKE AG D-3000 HANNOVER 20</td>
<td><strong>(2)</strong> Dock - Gate: A5-L31</td>
</tr>
<tr>
<td><strong>(3)</strong> Advice Note No (N): 2581752</td>
<td><strong>(4)</strong> Supplier Address: CSS MAWI3, 6750 KAIERSLAUTERN</td>
</tr>
<tr>
<td><strong>(5)</strong> Net weight: 345</td>
<td><strong>(6)</strong> Gross weight: 450</td>
</tr>
<tr>
<td><strong>(7)</strong> No Boxes: 01</td>
<td></td>
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<table>
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<th>Column 3</th>
<th>Column 4</th>
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<tr>
<td><strong>(8)</strong> Part No (P): 765-HGD89-123</td>
<td><strong>(9)</strong> Description: GEHLAESE</td>
</tr>
<tr>
<td><strong>(10)</strong> Quantity (Q): 140</td>
<td><strong>(11)</strong> Supplier Part No (10): 0-123B10-0</td>
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<tr>
<td><strong>(12)</strong> Supplier (V): 4638141</td>
<td><strong>(13)</strong> Item Code: D 910226</td>
</tr>
<tr>
<td><strong>(14)</strong> Serial No (N): 2581752 01</td>
<td><strong>(15)</strong> Batch No (H): A43-275 XL C 123</td>
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<tr>
<td><strong>(17)</strong> CSS, POSTFACH 420, 6750 KAIERSLAUTERN</td>
<td><strong>(18)</strong> Vendor: Warrentabler VQA 4922, Version 4</td>
</tr>
</tbody>
</table>
Beyond The Smartphone
Augmented Reality With Wearables For The Picker
Taking the Human Out of the Data Capture Loop - Robotic Inventory Monitoring
Stationary Cameras

Goal: Streamline Work and Avoid Human Error

- Capture Parcel ID
- Detect Loading Errors Automatically
Key Takeaways

• Smartphone-based Computer Vision Tools can help increase employee efficiency and reduce errors in the supply chain.

• Commercial solutions have been successfully deployed by industry leaders and can be rolled out today.
For more information

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