IMPLEMENTING A SUCCESSFUL REAL-TIME PROJECT

Lessons from the partnership between Conduce and DHL for digital supply chain

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THE VIRTUAL WAREHOUSE WINDOW
DHL Smart Warehouse

https://www.youtube.com/watch?v=ufmh0vrr3Fw
DHL is ready for Industry 4.0

The supply chains of the future will be fully digitalized, enabled by technology and standardized processes.

1st Industrial Revolution
Steam, mechanical production

2nd Industrial Revolution
Mass production, labor division, electricity

3rd Industrial Revolution
Electronics, IT, automated production

Industry 4.0
Convergence of physical systems with digital and biological systems

Today

Source: DHL Supply Chain Digitalization Strategy
Trend radar as basis for exploration

Source: DHL Trend Research
Key to digitalization lies in defining trends which are most relevant to the industry

Source: DHL Supply Chain Digitalization Strategy
Structured approach ensures innovations undergo thorough research and testing

Innovate locally

Enhance cross-regionally

Scale globally

Source: DHL Supply Chain Digitalization Strategy
Innovating through partnerships

**Universities and research institutes** with a network of researchers and analysts; driven to test and further applied research in relevant fields and industries.

**Industry leaders or start-ups** possessing technological know-how, technical capabilities and skilled experts. Co-creation to test feasibility of technology for industrial use; technology further enhanced through DHL’s adoption of technology and industry knowledge.

**DHL Supply Chain** brings business and industry expertise to the table. Co-creation can deliver efficiencies, support business exploration and growth. It also energizes DHL’s innovation culture through exposure to other innovation cultures from our partners, and attracts the right talent to drive and deliver on the ever changing needs of future supply chains.

Source: DHL Supply Chain Digitalization Strategy
How the technology works

1 Location data from sensors on equipment such as scanners and material handling equipment (MHE), and shelf locations are transmitted centrally in real time and wirelessly via existing Wi-Fi infrastructure within the warehouse.

2 Data from these locations are aggregated and overlaid with warehouse order activities from the warehouse management system on-site and mapped against the warehouse layout, providing a visual representation of all data in real-time with heat maps and location geotags that evolve over the course of the day.
Benefit: MHE fleet optimization

- Analyze usage over day/week/month time frames
- Compare month start to month end
- Optimize fleet size and composition
Benefit: Inventory velocity

- Minimize travel distances by putting the right SKUs in the proper place
  - More picks per hour
- More frequent analysis
  - Faster learning, smoother implementation
Benefit: Safety

• Review traffic flows in heat maps
  – Adjust layout for smoother flows
• Review incidents
  – Impacts, collisions
Benefit: Visibility and standardization

- Combined benefit of unified view is the “virtual warehouse window”
- One screen to show you what’s happening
  - Easier syndication of best practices
The moral of the story

Clear vision

Disciplined approach

Commitment to co-creation

Start with business outcomes

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THANK YOU