3D PACKAGING SIMULATION SUCCESS STORIES

See how DHL, the world's largest logistics company uses Visual Components to power the adoption of automation in the age of Accelerated Digitalization

VISUAL COMPONENTS

The World's Leading Logistics Company

When Adrian Dalsey, Larry Hillblom, and Robert Lynn founded DHL in 1969, they didn't know they would revolutionize the world of logistics. Today, DHL is the world's leading logistics company. They employ over 550,000 people in over 220 countries helping organizations cross borders, reach new markets, and grow their business.

Within DHL Supply Chain, Digital Manufacturing act innovation and technology development hub for robotics and automation; sourcing, manufacturing and integrating robotics solutions that ensure DHL builds a resilient, sustainable competitive advantage.

A Unique Business Unit providing complex B2B solutions

Digital Manufacturing is part of DHL and remains the hub for innovative design, sourcing, and integration of robotics and automation services to help logistics operations and packaging services in DHL's colossal global supply chain ensuring DHL provides a sustainable competitive advantage.

CHALLENGES:

- **CUSTOMIZATION:** Capability of accommodating differentiated packaging solutions to multi-faceted customers across different industry verticals including Health, Pharmaceutical, Automotive Manufacturing, Financial Services, and Food & Beverage.
- **TIGHT PACKAGING REQUIREMENTS**: Highly sophisticated outsourced supply chains requiring a high degree of technical control for efficient and accurate outputs.
- **VISUALISATION**: The ability to show customers how their operations will benefit by using DHL and how DHL can achieve efficiency gains, cost reduction, and increased automation into the packaging processes.

Learn more about the benefits of simulation for manufacturing at www.visualcomponents.com

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The constantly changing nature and highly competitive world of supply chain and logistics means we need to develop our automation systems quickly and at the lowest possible cost.

Providing flexible and robust solutions is critical to the seamless service that DHL provides, and that’s where simulation and visualization of the challenge enable our success. Simulation software and process modeling helps us show customers how we can be better for their business without having to interrupt their operation. Simulation helps improve automation to achieve efficiency gains.

George Walsh, Product Development Engineer, Digital Manufacturing, DHL

Why DHL Chose Visual Components

ADVANCED PLATFORM:
From model building and layout planning to equipment verification and process optimization..

EASY TO USE
Simple workflows for modeling packaging solutions and processes.

ECATALOG
Extensive library of parametric and reusable models included in the Visual Components e-Catalog.

SIMPLIFIED COMPONENT MODELING
Fast and easy modeling of equipment and processes.

VISUAL COMMUNICATION TOOL
High-quality graphics and video output.

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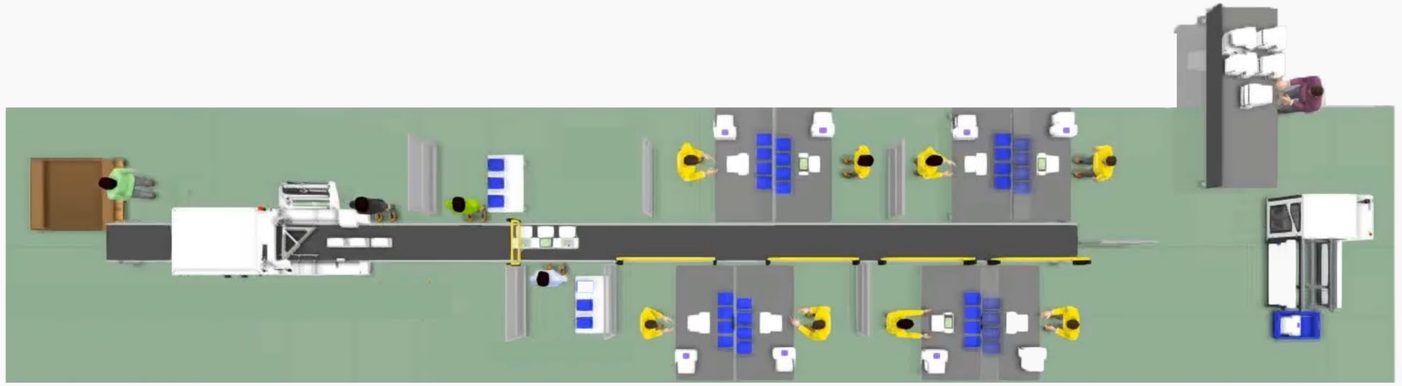
Packaging lines are labor-intensive, so reducing operational costs and increasing efficiency through automation and process improvements are vital to staying competitive



Health Industry packaging system – Processing efficiency improved by 35%

This case study is about a production system in the healthcare industry where the manual packaging process was carried out at many individual workstations spread across the UK. Digital Manufacturing saw the opportunity to improve production line efficiency through automation of the non-value add tasks combined with line balancing best practice. Using Visual Components, it was possible to validate efficiency improvements of 35% by switching from individual workstations to a balanced flow-line.

Moreover, with the use of simulation, it was easy for the customer to visualize the functionality of the process which helped in the decision making and implementation. The turnaround from the first concept of seeing the manual operation to producing the first simulation was 3 weeks – and going from presenting the simulation and confirming the project another 3 weeks. Within a couple of weeks from the decision, the first line was built. Simulation with Visual Components not only added more realism by demonstrating the overall process with actual products and tasks but also created a trust that enabled the customer to make their production decisions faster compared to the cases without simulation.

CASE STUDY VIDEO

Making the right decisions about increasing automation into a production line and reaping the benefits

Electronic Goods packaging – Increasing productivity by 34% whilst maintaining costs

The customer wanted to understand the impact of upgrading their single robot production line to three in parallel with minimal operator intervention. Visual components enabled the Digital Manufacturing team to experiment with production line automation concepts to find the right balance of cost, scalability, and performance. The use of simulation allowed the productivity of each concept to be calculated during the development stage and the selection of the most optimal scenario was easier with data-driven facts. The selected production concept improves the productivity of each robot system by 34% and improves operator interaction from once every 7 minutes to once every 50 minutes including a reduction in total touch time by 50% to 9 minutes.

CASE STUDY VIDEO

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Using Visual Components, we were able to achieve increased efficiency gains, reduced packaging and processing costs whilst helping our customers visualize how automation could improve overall production efficiency gains. It’s a game-changer.

George Walsh, Product Development Engineer, Digital Manufacturing, DHL

Exceeding the Project Goals

Using Visual Components, DHL was able to realize significant operational improvements and cost savings for the benefit of their outsourced customers. This provided a competitive edge for DHL winning more customers.

1. Visual Communication Tool

By using the software, DHL’s customer was able to see the impacts of DHL’s proposed changes to production line efficiency (using automation) and this enabled decisive buy-in by their customer.

2. Efficiency Gains

It was possible to validate efficiency improvements of 35% by switching from individual workstations to a balanced flow-line.

3. Improved Floor Plan Layout

Floor plan requirements reduced by 33% whilst production efficiency improved by 35%.

4. Identify Potential Issues Early

Early Simulation allowed for improved automation, process flow, and centralizing conveyor belt division of labor. This led to headcount reductions from 39 FTE to 13 FTE, without sacrificing output, quality, or flow.

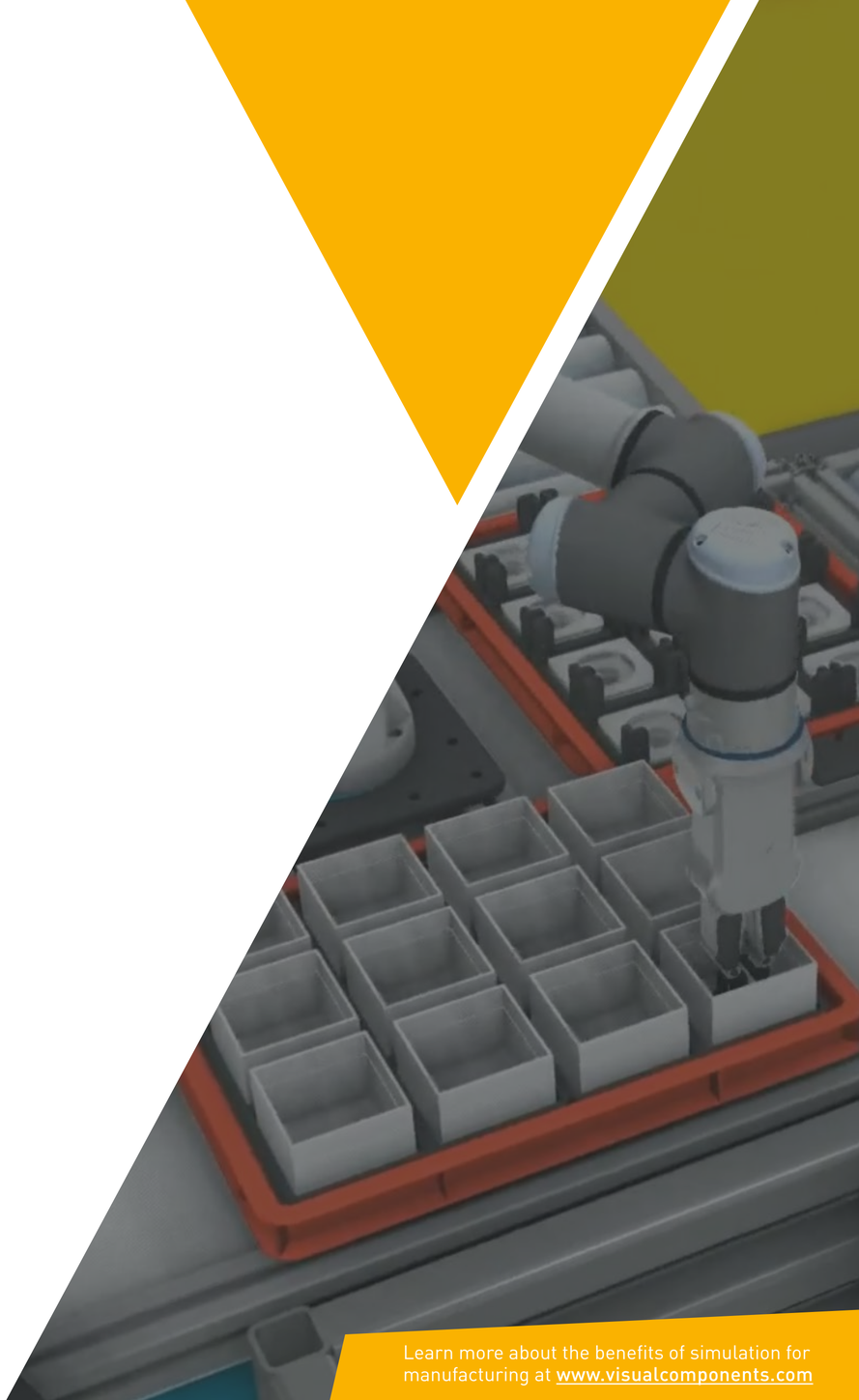
5. Quickly Iterate Multiple Concepts

Multiple simulation scenarios are created to calculate the optimum production flow and use of robots compared to humans. This results in improvements in robot productivity by 14% and improves the operation interaction from once every 7 minutes to once every 50 minutes which reduces the total touch time by 50%.

Summary

How did DHL use Visual Components to improve packaging production, reduce packaging costs, implement increased automation into the packaging process for the benefit of their outsourced customer whilst equipping DHL with a competitive advantage to win more customers?

- Design, optimize, and verify the packaging process and production feasibility.
- Increase capacity and flexibility through automation.
- Dynamically present solutions to customer executives and project stakeholders.
- Move fast through designing and building simulation models.



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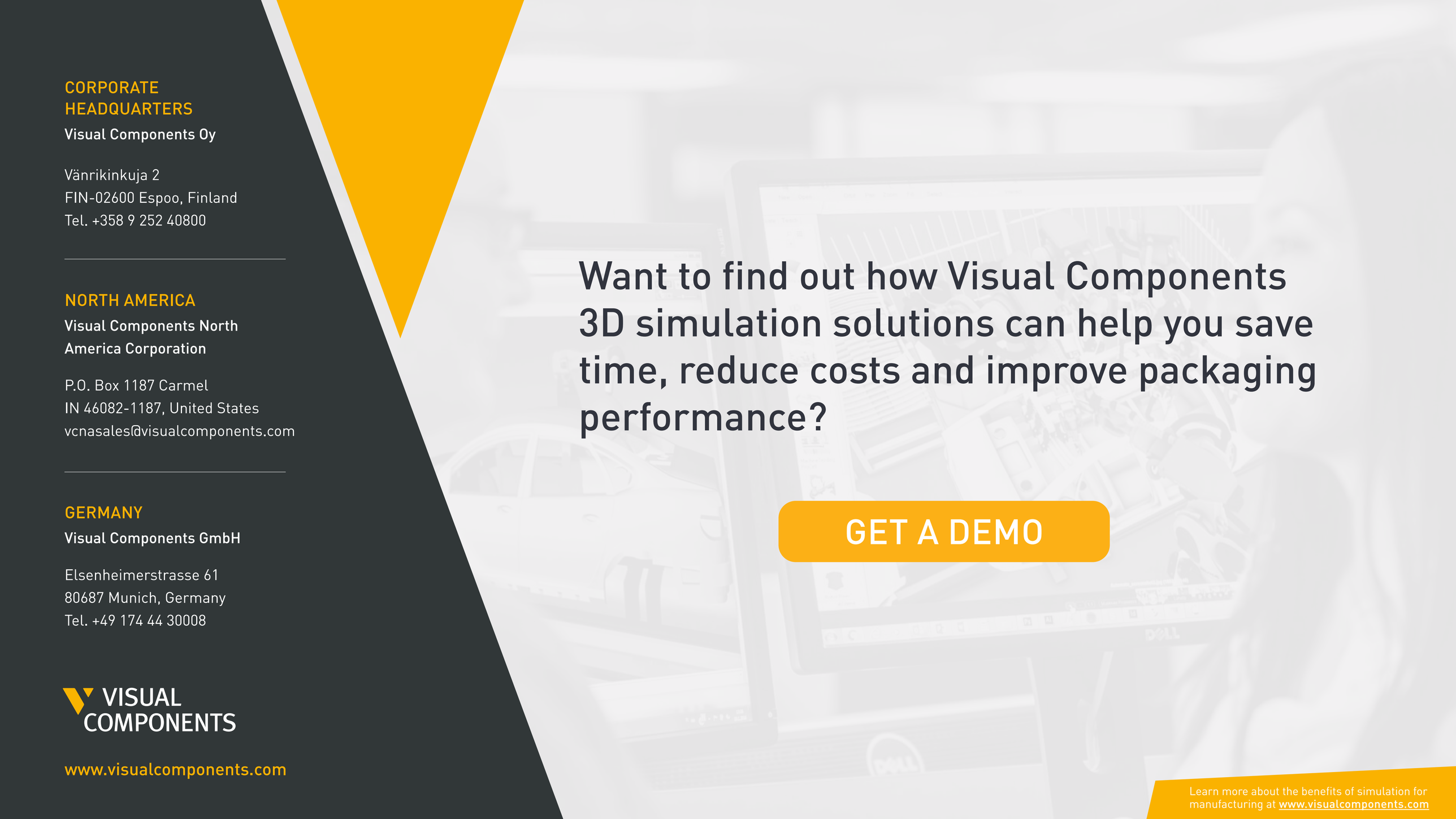

Want to find out how Visual Components 3D simulation solutions can help you save time, reduce costs and improve packaging performance?

GET A DEMO

Learn more about the benefits of simulation for manufacturing at www.visualcomponents.com