DHL AUTO-MOBILITY WAREHOUSE OF THE FUTURE

STRONGER TOGETHER

Imagine if you could make your workers' lives less repetitive and physically demanding yet still boost productivity and achieve savings. To stay competitive and relevant for the future, warehouses need to develop new ways of working. At DHL, we can help you tailor a solution for your exact needs.

LET'S BUILD A BETTER FUTURE

DHL has built expertise in the integration of new technology within auto-mobility logistics. We have the experience and breadth of capability to help you devise, trial, and incorporate new levels of efficiency both locally and around the globe.

AUTO-MOBILITY USE CASES FOR EACH INNOVATION

1. WAREHOUSE AUTOMATION

Driven by rapid technological advancements and greater affordability, robotic systems are entering the logistics workforce and adopting collaborative roles in the supply chain.

Automated storage and retrieval systems can be implemented in production supermarkets and warehouses to save space closer to the assembly line. They are also frequently used in aftermarket operations especially in small or fast moving parts picking.

2. AUTONOMOUS VEHICLES

From trucks to last-mile delivery robots, self-driving vehicles are transforming logistics by unlocking new levels of safety, efficiency, and quality.

Automated guided vehicles (AGVs) are extremely convenient for transporting large and heavy auto parts as well as for sequencing operations. They can support autonomous parts picking, full-pallet picking, and put-away processes.

3. UNMANNED AERIAL VEHICLES (UAVs)

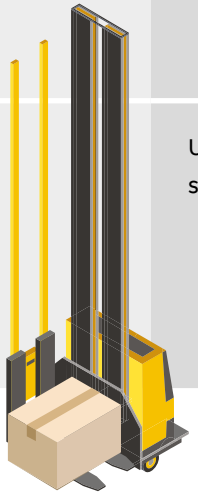
UAVs or 'drones' can be used for intralogistics and surveillance operations, especially operating safely in remote, potentially dangerous-to-access locations.

Routine safety checks and patrols can be done by drones around the premises. They can also be used for automated stocktaking in high-turnover warehouses.

BENEFITS FOR YOUR BUSINESS

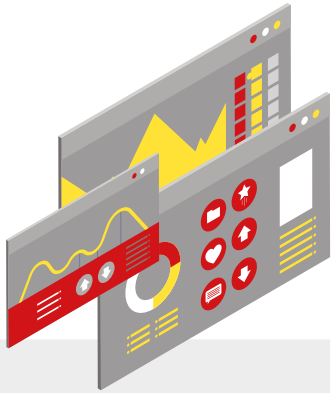
Warehouse automation supports zero-defect processes, boosts productivity, and increases storage density.

AGVs can increase put-away productivity, improve safety, and minimize time wasted during employee movements.



UAVs enable more efficient and flexible surveillance and stocktaking operations.

For more inspiration and understanding of each trend, please read our trend reports



4. WEARABLES

Wearables such as ring scanners, smartwatches, and exoskeletons have the potential to overcome current limitations such as physical barriers and the strength and visual capabilities of your workforce.

No need to use a paper-based picklist or hand scanner. AR-assisted wearables allow hands-free operation and improve multi-order line picking.

Minimize health and safety risks in the supply chain with wearables, and achieve higher efficiency through hands-free operations and real-time operational analytics.

5. AUGMENTED REALITY (AR)

By adding virtual layers of contextual information onto a heads-up display or other digital device, AR empowers workers by providing the right information at the right time and in the right place.

AR software can be used to enhance the capabilities of wearables. AR also allows faster quality checks in the picking process, before materials are sent to the assembly line, dealers, and garages.

AR enables higher efficiency and error-free processes to reduce costs while simultaneously improving quality and performance.

6. INTERNET OF THINGS (IoT)

IoT has the potential to connect virtually anything to the internet and data from connected objects can be used to generate actionable insights that drive change and new solutions.

Location data from sensors on items such as scanners and material-handling equipment, shelf locations, and docking doors is transmitted centrally in real time and wirelessly to the IoT system to visualize activities. Operations where there are many asset movements and high usage can be optimized dynamically.

Real-time IoT connectivity improves service quality, optimizes asset utilization, and increases on-time delivery (OTD).

7. BIG DATA

With a vast degree of digitalization, unprecedented amounts of data can be captured from various sources. Thanks to the power of big-data analytics, businesses can make decisions based on better information.

Data-driven operating and business models can be created to improve forecasting and to better predict demand for parts. Big data use could be the key to risk management for globally stretched auto supply chains.

Optimize planning, resource utilization, process quality, and performance with big data, and reduce supply chain costs.

DHL'S VISION FOR YOUR WAREHOUSE OF THE FUTURE

HOW SMART IS YOUR WAREHOUSE?

An aging workforce, higher labor costs, and increasing consumer expectations are changing the way warehouses work forever. As new technology becomes more accessible, along with lower integration costs, businesses now have the opportunity to create super-agile warehouses ready to cope with the demands of the future.

WE OFFER YOU:

Constant innovation
Our dedicated Innovation and Trend Research teams can design, implement, and operate flexible warehousing and distribution solutions tailored to your business needs.

- **Consultancy** – guidance on which innovations to use
- **Co-development** – initiating a joint journey to design the solution you need and share the risks
- **Implementation** – delivering excellent technology integration into existing operations
- **Management** – ensuring solutions operate as efficiently as possible

By working closely with our customers, and through the intelligent use of new technology, we have been able to successfully deliver proofs of concept that have solved their logistics challenges.

DHL – Excellence. Simply delivered.

TAILORED SOLUTIONS

If we haven't already created the solution you need, we'll invent it with you. Thanks to our extensive global network and local knowledge, we have the insight and expertise to tailor the exact service you require.

Collaborative robots will support the logistics workforce of the future;
Source: Fetch Robotics

WE'LL HELP YOU SHAPE THE JOURNEY AHEAD

Learn more about the warehouse of the future and understand how other industries are responding to trends by contacting your dedicated sales manager.

Read our other publications on **battery logistics** and **e-commerce.**

Discover the latest trends and innovations by taking a personalized tour at one of our **DHL Innovation Centers** located in Troisdorf, Germany, Singapore, and Chicago, USA.

For more information, contact us at
auto-mobility@dhl.com

WE NEVER STOP

DELIVERING EXCELLENCE TO THE AUTO-MOBILITY INDUSTRY

The future belongs to those who think ahead. Innovation is more important than ever. DHL aims to be the auto-mobility industry's most trusted global partner for high-quality logistics solutions and innovations addressing the supply chain challenges of today and tomorrow.

CONNECTING

Sharing our unparalleled global reach
Bringing your company closer to customers, suppliers, and partners across all markets in over 220 countries and territories around the world.

INNOVATING

Adding to your competitive edge
Carefully tracking the most significant technology, business, and social trends to assess their impact and explore their benefit to your business.

POWERING

Accelerating your business growth
Driving the industry forward to help tackle the key challenges of our times, we're your proactive partner ready to help you reap the rewards of business growth.

PIONEERING

Keeping you ahead of the curve
Taking the lead as a logistics trailblazer to help you and us stay at the forefront of the auto-mobility industry.

DHL – Excellence. Simply delivered.