

# Decarbonisation: leveraging material handling for greater sustainability.

## The role of material handling in building a sustainable future.




Sustainability is increasingly becoming a priority for businesses, driven by stricter regulations and rising customer expectations. Material handling is at the forefront of this transition, offering significant opportunities to cut CO<sub>2</sub>e emissions while delivering operational and financial benefits across all sectors.

### What steps are essential to unlock this potential?



## Optimise process and warehouse systems.

01<sup>Step</sup>




-  Intelligently connected and streamlined processes improve (energy) efficiency and profitability across the business.
-  Efficient use of storage space, with high-density storage, as well as optimised transport routes for industrial trucks, minimising empty journeys, together positively impact the environment.
-  Scalable storage systems adapt flexibly to current requirements, ensuring efficient use of capacity.

More than 6,200 service and support professionals at Jungheinrich worldwide provide customer assistance before, during and after warehouse optimisation.



## Drive electrification forward.

02<sup>Step</sup>




-  Even a partial shift to vehicles powered by lithium-ion batteries enhances energy efficiency.
-  Lithium-ion batteries offer a longer operational lifespan compared to traditional lead-acid batteries, reducing resource consumption.
-  To drive electrification, partnering with suppliers of energy-efficient, high-performance electric industrial trucks – such as Jungheinrich, a company with decades of expertise in electric technology – is highly recommended.

Lithium-ion vehicles can achieve an energy consumption reduction of around 20%.

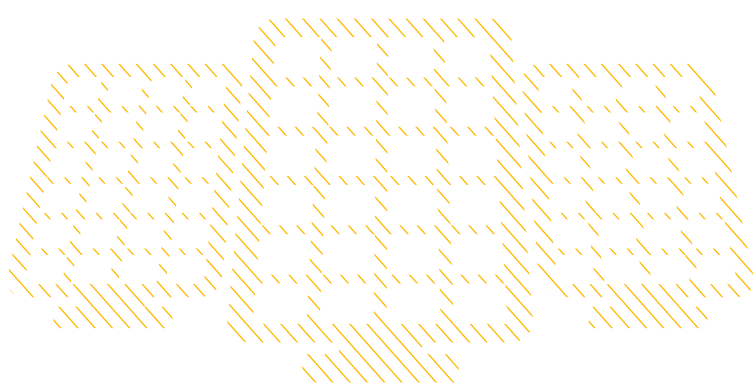


## Optimise energy management.

03<sup>Step</sup>




-  A comprehensive energy management strategy, supported by digital solutions, can unlock the full potential of fleets and warehouses, minimise energy consumption and significantly reduce emissions.
-  Decentralised and optimised charging infrastructure for lithium-ion technology, combined with high-efficiency chargers, helps conserve resources and improves vehicle availability.
-  By generating their own energy – such as with photovoltaic systems – businesses can cover part of their energy requirements independently, increasing sustainability and reducing reliance on external energy sources.

Jungheinrich's certified chargers, with an efficiency of over 94%, deliver substantial cost savings across the entire charging process.



## Expand automation and digitalisation.

04<sup>Step</sup>



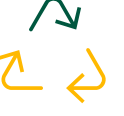
-  Automation solutions not only reduce the CO<sub>2</sub>e footprint but also provide a significant opportunity to lower operating costs and enhance process reliability.
-  Optimised route planning and real-time tracking improve material flow while minimising error rates.
-  Bespoke automation solutions deliver a substantial boost to storage capacity.

Over 1,000 automated warehouse systems from Jungheinrich are in operation across the globe.



## Make use of rental and usage solutions.

05<sup>Step</sup>

-  Rental solutions offer flexibility to address temporary surges in demand, with emissions calculated proportionally to the period of use.
-  Products designed for complete disassembly, cleaning and reuse at the end of their lifecycle significantly reduce emissions.
-  Businesses contribute to the circular economy by reclaiming waste materials and investing in pre-owned, refurbished industrial vehicles.

Reusing vehicles can achieve CO<sub>2</sub>e savings of up to 80% compared to manufacturing new ones.

