DESCARTES

ENVIRONMENTAL IMPACT GUIDE

INTRODUCTION

At no other time in history has there been more concern about the future of the planet. As more governments put environmental plans into action and consumers make more purchasing decisions based upon a company's sustainability performance, supply chain and logistics operations are tasked to be part of the effort to reduce greenhouse gas emissions. Descartes has a wide range of solutions that improve supply chain and logistics productivity and performance and help customers reduce greenhouse gas emissions and other polluting activities.

Significant positive environmental impact can come from taking technology-enabled actions like providing eco-friendly delivery options that minimize distance and fuel consumption, digitizing logistics processes that eliminate paper documents, and reducing wasteful vehicle congestion, idling and speeding. The opportunities go well beyond individual organizations and supply chains to multi-party collaboration that reduces deliveries to malls and shopping areas and "empty miles" due to inefficient matching of shipments to carriers.

We're focused on helping our customers improve their performance while helping the planet.

HERE ARE 22 WAYS THAT DESCARTES SOLUTIONS HELP THE ENVIRONMENT:

WITH ROUTING, MOBILE & TELEMATICS

Our solutions can reduce fuel consumption >5% and help eliminate paper-based delivery documents

1. Route optimization that helps to maximize fleet productivity, which results in less fuel consumed, fewer vehicles used and lower vehicle maintenance
2. Route orchestration to better coordinate multiple resources during delivery execution to reduce fuel consumed and the number of vehicles deployed and maintained
3. AI and machine learning that improves route planning accuracy and addresses route execution exceptions to make delivery fleets more productive, reduce fuel consumed and decrease the number of vehicles deployed and maintained
4. Advanced load network modeling that helps to ensure compliance with state and local government restrictions in congested areas to reduce traffic and related pollution
5. Mobile applications that eliminate paper-based delivery documentation
6. IoT-based telematics that minimize excessive idle time and help contain aggressive driving traits that consume additional fuel and increase vehicle maintenance
7. GPS-based fleet tracking that reduces vehicle turnaround and idle time at distribution centers and depots
8. Dynamic delivery appointment scheduling that increases delivery density, resulting in lower distance per delivery and less fuel consumed
9. Eco-friendly delivery options that allow consumers to choose delivery options that minimize environmental impact
10. Customer delivery notifications that help to decrease the number of failed deliveries and the need to reschedule them

WITH TRANSPORTATION MANAGEMENT

Our solutions can reduce fuel consumption >5% and help eliminate paper-based shipment documentation

11. Consolidate shipments to reduce the distance and fuel required to deliver them
12. Select transportation modes to use more efficient shipping options, which results in less fuel consumed
13. Backhaul shipment planning to reduce "empty" distance driven, creating greater carrier productivity and less wasted fuel
14. Dock appointment scheduling and yard management that reduces dock congestion as well as time and fuel used by carriers waiting to have their vehicles unloaded or loaded
15. Real-time truck visibility to better organize the loading and unloading of vehicles to reduce dwell time, idle time and fuel consumed at distribution centers
16. AI- and Network-based transportation capacity matching to further reduce empty legs for carriers and wasted fuel
17. Pool distribution that aggregates deliveries across multiple retailers to the same locations, improving delivery productivity and reducing delivery distance, number of vehicles needed and fuel consumed
18. Electronic shipping documentation that eliminates paper-based manifests

WITH COMMERCIAL & LOGISTICS MESSAGING

Our solutions digitally transform paper-based transaction processes

19. Manage and process documents electronically, eliminating paper-based processes
20. Coordinate information across multiple parties to streamline global shipping operations for improved efficiency and reduced handling and demurrage, which results in reduced fuel consumption

WITH CUSTOMS & REGULATORY COMPLIANCE FILINGS

Our solutions support the digital transformation of customs processes

21. Automate filing processes, eliminating traditional regulatory paperwork
22. Filing validation and real-time electronic communication with regulatory agencies that helps to reduce border crossing time, idling and fuel consumption

IN 2023 WE HELPED OUR CUSTOMERS SAVE:
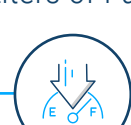
>2 MILLION Tons of CO2
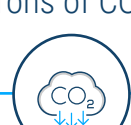
>3.6 BILLION Sheets of Paper

>941 MILLION Liters of Fuel

Infographic calculations were made using the paper calculator from Environmental Paper Network, the U.S. Energy Information Administration (EIA) Independent Statistics and Analysis, fuel economy data from The U.S. Department of Energy, and idling emissions data from Dieselnet and Frost & Sullivan.

DESCARTES' SUSTAINABILITY RESEARCH AND THOUGHT LEADERSHIP HELPS INFORM OUR CUSTOMERS AND INDUSTRY

The consumer is an important factor in sustainability, and consumers are becoming increasingly aware of the impact of logistics and supply chains on the environment. As part of our environmental efforts in 2022, we conducted a study of consumer sentiment on the sustainability of home delivery called *Retailers: Sustainability is Not a Challenge, It's an Opportunity*. Over 8,000 consumers in nine European and two North American countries were surveyed as part of the research. Our goal was to gain a better understanding of consumer thinking concerning home delivery and the environment and share key findings with our retail customers and the industry.

The study showed that 50% of consumers were quite/very interested in environmentally friendly delivery methods, but only 38% felt retailers were doing a good job at using sustainable delivery practices. As a leader in providing environmentally friendly home delivery solutions, Descartes has the ability to enable retailers to provide the sustainable home delivery options that consumers want. In addition, the study revealed that, across all countries surveyed, more than 30% of consumers always/regularly make online purchasing decisions based on environmental impact—for respondents aged 25-34, this figure rose to 42%.
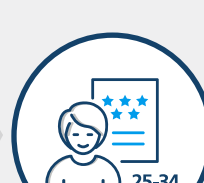
THE STUDY SHOWED:

50% of consumers were quite/very interested in environmentally friendly delivery methods.
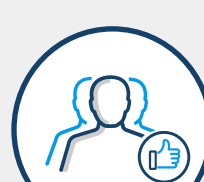
Only **38%** felt retailers were doing a good job at using sustainable delivery practices.

More than **30%** of consumers always/regularly make online purchasing decisions based on environmental impact.

and for respondents aged 25–34, this figure rose to **42%**.

LEARN MORE ABOUT CONSUMER SENTIMENT AROUND SUSTAINABLE HOME DELIVERY AND THE OPPORTUNITY IT PRESENTS FOR RETAILERS

ACCESS MORE DESCARTES THOUGHT LEADERSHIP AND RESEARCH

TO LEARN MORE ABOUT DESCARTES' ENVIRONMENTAL IMPACT...