

## ENVIRONMENTAL IMPACT GUIDE

### INTRODUCTION

Descartes has long recognized the connection between the value of our solutions and their impact on the environment. Many of the benefits customers receive using our logistics and supply chain solutions directly and positively impact the environment. From reducing driving distance for fleet operators to automating logistics and customs security and clearance processes to eliminate paper, Descartes solutions reduce global carbon footprint in a number of ways.

### HERE ARE 19 WAYS THAT DESCARTES SOLUTIONS HELP THE ENVIRONMENT:

#### WITH ROUTING, MOBILE & TELEMATICS



Our solutions reduce fuel consumption by

**5%-25%**

and eliminate

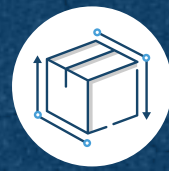
**1-3**

pages of paper per delivery

- 1** Route optimization that helps to maximize fleet productivity which results less fuel consumed, vehicles used and vehicle maintenance.
- 2** Mobile applications that eliminate paper-based delivery documentation
- 3** IoT-based telematics that minimize excessive idle time, help contain aggressive driving traits that consume additional fuel and increase vehicle maintenance
- 4** GPS-based fleet tracking that reduces vehicle turnaround and idle time at distribution centers and depots
- 5** Dynamic delivery appointment scheduling that increases delivery density resulting in lower distance per delivery and less fuel consumed
- 6** Customer delivery notifications that helps to decreases the number of failed deliveries and the need to reschedule them
- 7** Advanced road network modeling helps to ensure compliance with state and local government restrictions in congested areas to reduce traffic and related pollution

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

#### WITH TRANSPORTATION MANAGEMENT



Our solutions reduce fuel consumption by

**5%-10%**

and eliminate

**1-5**

pages of paper per delivery

#### WITH COMMERCIAL & LOGISTICS MESSAGING

Our solutions eliminate

**1-5**

pages of paper per document



- 16** Manage and process documents electronically eliminating paper-based processes
- 17** Coordinate information across multiple parties to streamline global shipping operations improve efficiency and reduced handling and demurrage resulting in reduced fuel consumption

- 18** Automate filing processes to eliminate traditional regulatory paper work
- 19** Filing validation and real-time electronic communication with regulatory agencies that helps to reduce border crossing time, idling and fuel consumption

#### WITH CUSTOMS & REGULATORY COMPLIANCE FILINGS

Our solutions eliminate

**1-10**

pages of paper per entry



### IN 2020, WITH THESE METHODS, DESCARTES HELPED ELIMINATE:

**>552,000**

Tons of CO2



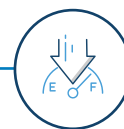
**>1.86 BILLION**

Sheets of Paper



**>727 MILLION**

Liters of Fuel



\*INFOGRAPHIC CALCULATIONS WERE MADE USING THE PAPER CALCULATOR FROM ENVIRONMENTAL PAPER NETWORK, THE VEHICLE CO2 EMISSIONS CALCULATOR FROM COMMERCIAL FLEET, FUEL ECONOMY DATA FROM THE U.S. DEPARTMENT OF ENERGY, AND IDLING EMISSIONS DATA FROM DIESELNET AND FROST & SULLIVAN

The savings and projections reflected in these infographics are based on a number of assumptions, estimates and calculations. Descartes believes that each of these are reasonable and supportable in the context in which they have been calculated but the numbers and quantities expressed are not the result of actual measured amounts and instead are forecasted amounts. Readers are cautioned to view these infographics in that context and to use them only for informational purposes.

TO LEARN MORE ABOUT DESCARTES' ENVIRONMENTAL IMPACT...

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