Big Data = Big Wins for the Environment

UPS manages more than 16 million shipments a day, all over the world. Its single integrated and optimized network results in environmental benefits such as reductions in fuel use and greenhouse gas emissions. To make the network operate more efficiently and reduce environmental impact, UPS designs, acquires, implements and optimizes information technology for continuous improvement. Technology has helped UPS fine-tune various aspects of its operations – from planning and routing to flying and driving – something that's good for business and the environment.

A key tool in achieving sustainability improvements is the use of "big data." UPS uses proprietary package flow technology to determine what packages are loaded on each vehicle, then gathers data from several aspects of fleet operations using a telematics technology system.

Engine
Insight into performance and condition

GPS
Captures driver behavior and safety habits

Sensors
Reports on emissions and fuel consumption

Devices
Monitors deliveries and customer service

Maps
Collects address points and routes traveled

"**It's not the data alone** that helps us improve. It's what we do with it that makes the difference."

– Jack Levis, UPS Director of Process Management

"Telepathic Trucks" – Fuel Efficiency Starts with Vehicle Data

200x
Data points

Sensors that capture over **200** data points for more than **80,000** vehicles are downloaded every day. The data analyzed includes:

- Engine monitoring
- Number of stops
- Speed
- Miles per gallon
- Mileage
- Safety aspects

Telematics data works, in turn, with a proprietary infomatics application that helps analysts mine the data to inform operational improvement strategies that also have environmental benefits.

"**Multiply** the smallest environmental savings tactic by more than 102,000 vehicles worldwide, and you can start to imagine the potential."

– Dale Spencer, UPS Corporate Automotive Manager

Exponential Results

A host of technology investments have helped UPS find ways to sort and load packages more accurately and precisely. These advancements also allow the company to provide drivers a customized manifest of packages on each vehicle to ensure optimized delivery. These efforts drive efficiency and service improvements, as well as environmental benefits.

Fuel and Emissions Efficiency

206 million minutes

x 10 Million

Amount of idling time reduced in 2012, saving more than **1.5 million gallons** of fuel.

Greenhouse Gas Reduction

13,000 metric tonnes of carbon emissions

The amount of carbon emissions avoided due to reduced miles per stop – **12.1 million miles** of driving eliminated in 2012.

Mileage and Fuel Reduction

39 million gallons

x 1 million

The amount of **fuel saved** since 2001 through route optimization.

364 million miles avoided since 2001 – that's enough miles to drive around the earth **14,617 times!**

"ORION is one of the **best examples** of using data and analytics in front-line processes."

– Tom Davenport, International Analytics Institute co-founder and Babson College professor

Route Optimization through ORION

On Road Integrated Optimization and Navigation

UPS takes a holistic approach to integrating data into technology. Arguably the world's largest operations research project, ORION uses fleet telematics and advanced algorithms to take route optimization to a new level. In 2013, UPS began the first major deployment of ORION, with plans to deploy the technology to all 55,000 North American routes by 2017.

1.5 million gallons of fuel savings
and 14,000 fewer CO_2 emissions by end of 2013 by optimizing 10,000 routes

250 million+
address data points

55,000 North American routes
planned for deployment by 2017

Tens of thousands
of route optimizations per-minute based on real-time information

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Learn more at ups.com/sustainability