

# UPS Decision Green Technology Forum

Greening Your Supply Chain

Decision Green<sup>SM</sup>





# UPS Decision Green Technology Forum

Dave Barnes, Sr. Vice President and Chief Information  
Officer, UPS  
March 23, 2010

Decision Green<sup>SM</sup>



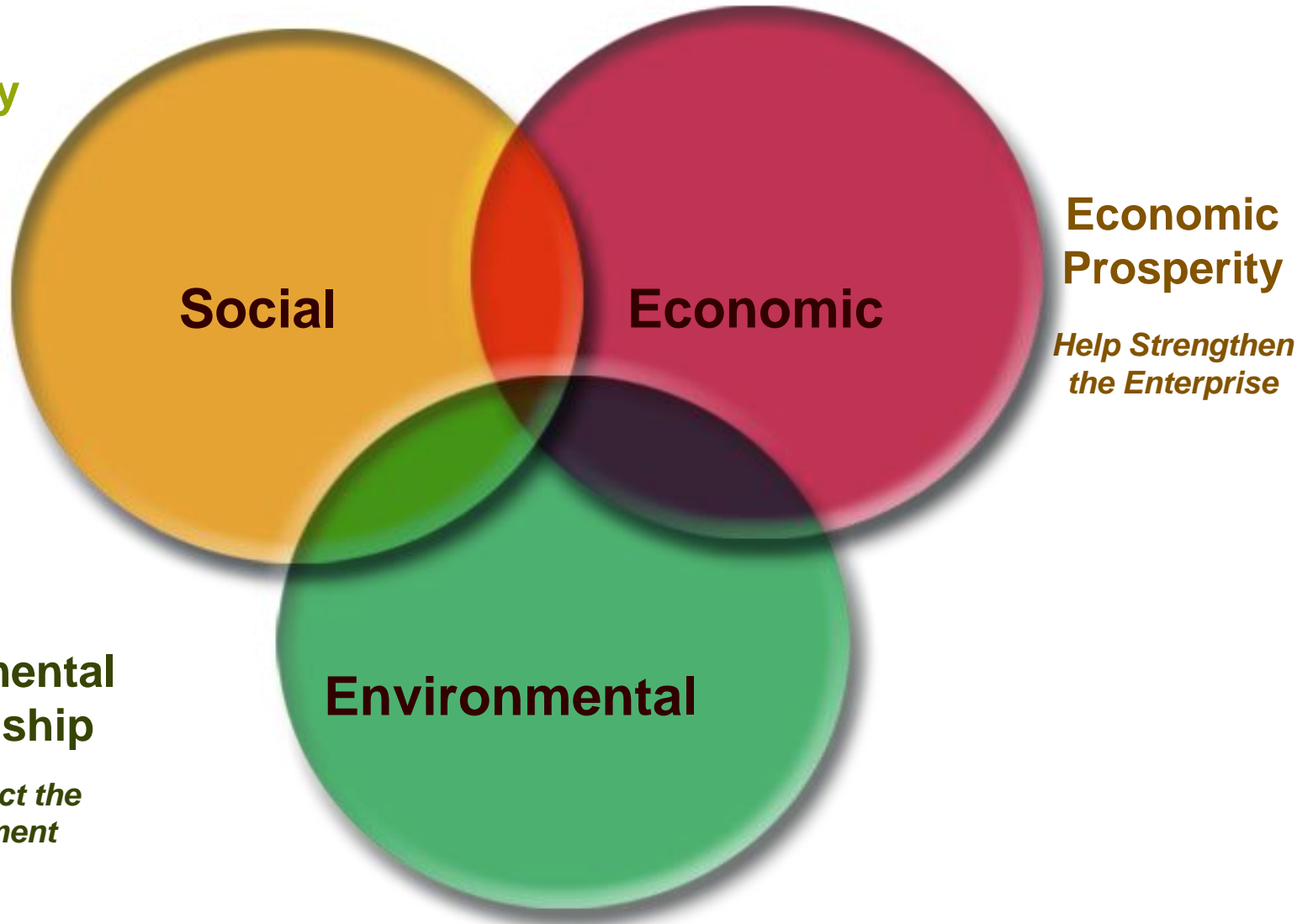




# Global Strategy

## Social Responsibility

*Help Improve the  
Human Condition*



## Economic Prosperity

*Help Strengthen  
the Enterprise*

## Environmental Stewardship

*Help Protect the  
Environment*

# Decision Green<sup>SM</sup>

UPS's environmental platform reflects our pursuit of sustainable business practices worldwide through:

- Operational efficiency
- Conservation initiatives
- Industry-leading innovations

This approach extends to helping our customers do the same.



# Fuel saving technology

**UPS Airlines is the most modern and noise compliant in the package industry**

- 9<sup>th</sup> largest airline in the world
- Aircraft fuel conservation practices include:
  - Lower flight speeds
  - Single engine taxi
  - Auxiliary power
  - Optimized flight plans



# UPS carbon neutral shipping

**UPS**

UPS carbon neutral shipping

Home Ship carbon neutral FAQ

**Plant a tree**  
by telling us about your Earth-friendly preferences

Take our survey

**Keep up with UPS**  
Subscribe to UPS e-mail updates

Sign up

**Check our credentials**  
Read about the companies who validate us

Verified  
UPS carbon neutral, a voluntary system for tracking and offsetting the carbon

**SGS**

**A greener way to ship**

**UPS carbon neutral shipping**

For as little as five cents more per package, gain more control over your climate impact with UPS carbon neutral shipping, a UPS shipping service that offsets the carbon dioxide (CO<sub>2</sub>) associated with the packages it transports.

Ship carbon neutral

# No paper? No problem.

- Electronic international commercial invoices
- More than 70,000 customers use UPS Paperless Invoice
- Converts lengthy Customs documents into electronic data
- Automates the process so that packages can clear Customs before arrival at destination
- 105 million sheets of paper saved since 2008

*UPS Paperless Invoice  
saves time, money and  
trees.*



# The UPS Foundation

Technology aids disaster relief

## UPS committed \$1 million to Haiti Disaster Relief

\$500,000 cash and \$500,000 in-kind  
transport

Partnered with American Red Cross,  
UNICEF, CARE, and UN World Food  
Programme to provide aid

UPS Trackpad® technology to the  
Salvation Army to track supplies for  
displaced families



**Environmental  
Performance  
=  
*Advantage***



# Decision Green Technology Forum

Twitter hashtag:

#dgforum





# Creating a Sustainable Supply Chain – Four Ways to Green

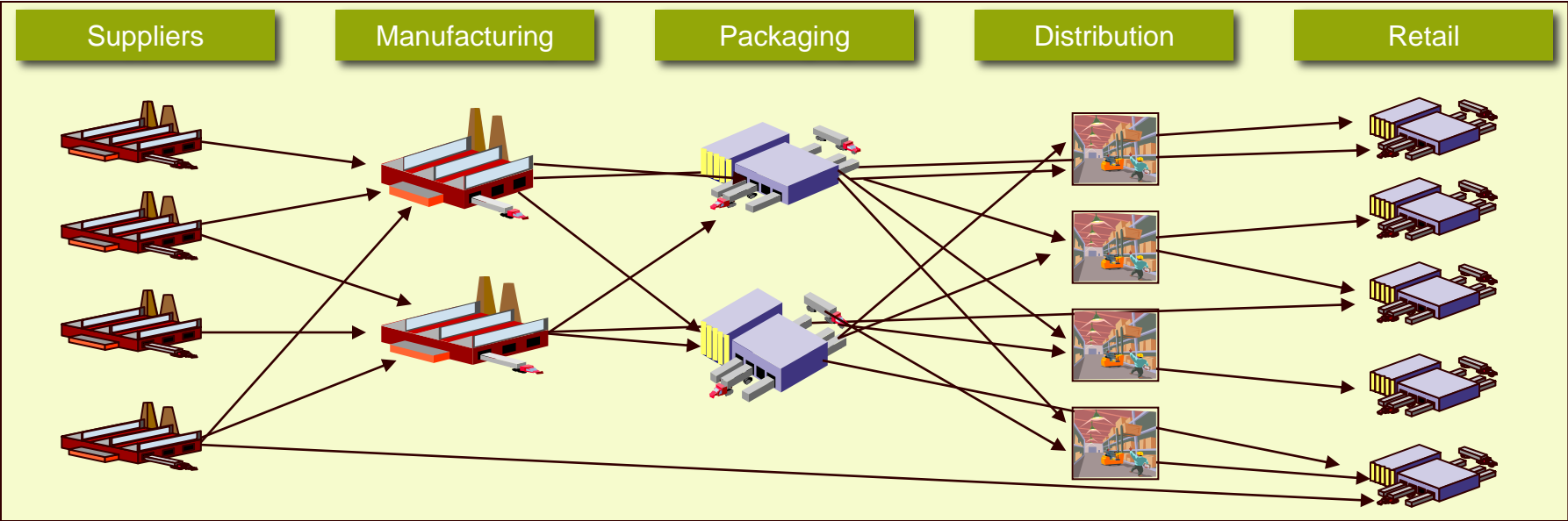
Brad Mitchell, President, UPS Distribution & Logistics  
March 23, 2010

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# Sustainable Supply Chains...

## A Growing Necessity



# Market Moving to Green

- Companies that want to operate successfully in the future do not have a choice...they *must* reduce their environmental impact
- If not....companies stand to lose customers, partners and even their competitive market position.





# Four Ways to **Green** Your Supply Chain

- Packaging
- Network Optimization
- Route Planning
- Returns and Repairs



# Packaging Supports and Balances

- Cost and carbon reduction
- Operational efficiencies
- Resource conservation
- Supplier compliance
- Sustainability reporting
- Brand and reputation enhancement



# Proper Packaging Reduces Waste

- Materials
- Cube optimization
- Damage reduction
- Special considerations





# Packaging Lab Testing Prevents Damages

- Compression

- Vibration

- Drop

- Shock







# Reusable Packaging Helps Environment





# Cube Optimization Reduces Expense



# Creating Sustainable Supply Chains

5-15% of product lifecycle emissions from logistics and transportation





# Ask Yourself

- What is the optimal number of warehouses we need to store inventory?
- Do we operate more/less warehouses than we need?
- Can we bypass warehouse altogether?
- Are we close enough to our customers for quick, cost-effective delivery?
- Do we have access to multiple transportation modes?

*fewer miles, fewer emissions  
...faster time to market*



© SWNS



# Ask Your Third Parties

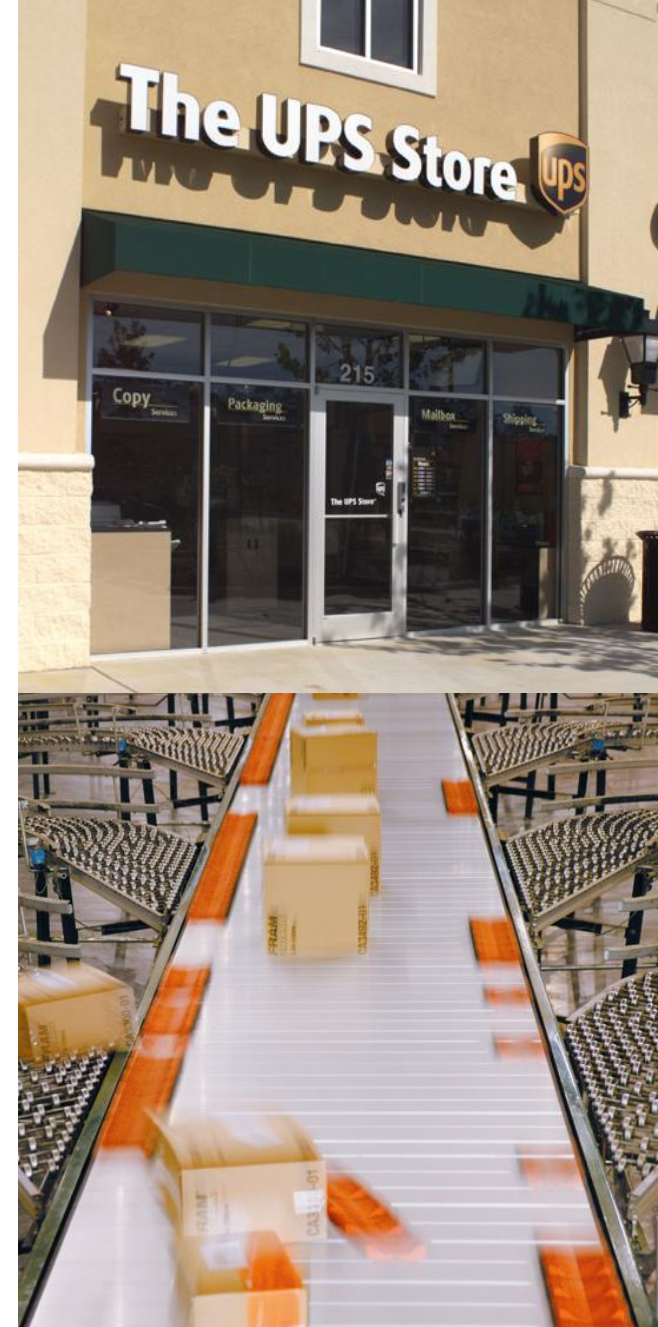
- Do you operate fuel-efficient trucks and air planes?
- Do you plan routes to reduce miles traveled and emissions?
- Do you have technology to automate processes and reduce paper waste?
- Do you have size and scale of operations to be close to my customers?
- Can you help me deliver on my **green** promise?



# A new paradigm

- Both companies and third-party partners need to optimize around time...cost...and carbon

*fewer miles, fewer emissions  
...greener supply chain*



# Route planning leads to *optimization*

## Distribution Efficiency and Fuel Conservation

### ■ State-of-the-art UPS Software

- Provides maximum coverage while reducing road miles
- Minimizes driver overlap
- Saves fuel
- Reduces emissions



+



+



=





# Idling doesn't pay

- Idling releases 11 million tons of CO<sub>2</sub> each year (Source: *Transport Topics*)
- Idling costs the trucking industry over \$2.5 billion annually in fuel and repairs (Source: National Conference of State Legislators)



*American Clean Energy and Security Act of 2009 sets specific goals for carbon emission reduction by businesses.*

# Technology powers route *optimization*

*Visibility Enables Fuel Conservation*

- UPS Logistics Technologies has helped companies with 188,000+ vehicles shave approximately 1.1 billion miles off routes and eliminate roughly 1.9 million metric tons of CO<sub>2</sub> annually



# Road to Greener Route Planning

- Use rush hour models and historical traffic data
- Provide accurate, turn-by-turn directions for drivers
- Develop contingency plans
- Report on actual vs. planned route data





# The Environmental Cost of Returns



**Manufacturer/Retailer**



**Original shipment**



**Return/Disposal**



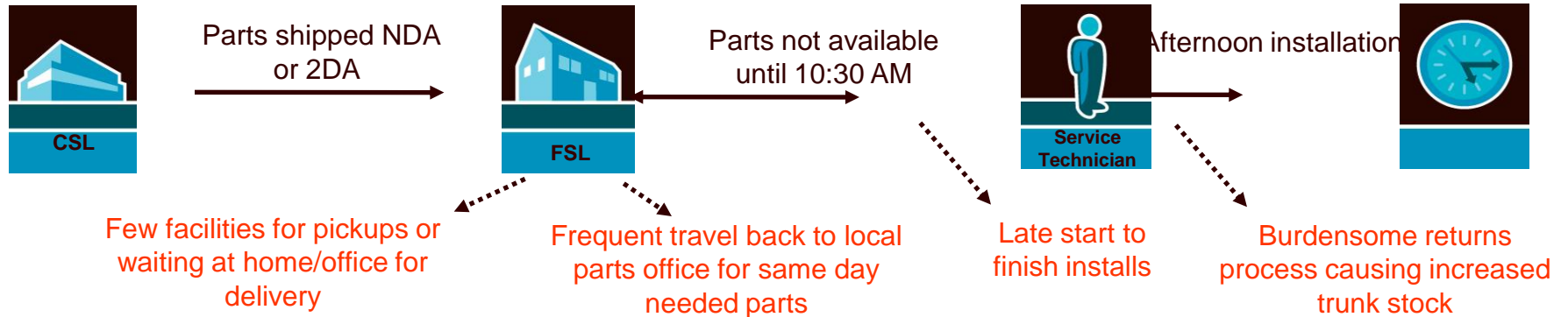
**Remanufacture/  
Re-ship**



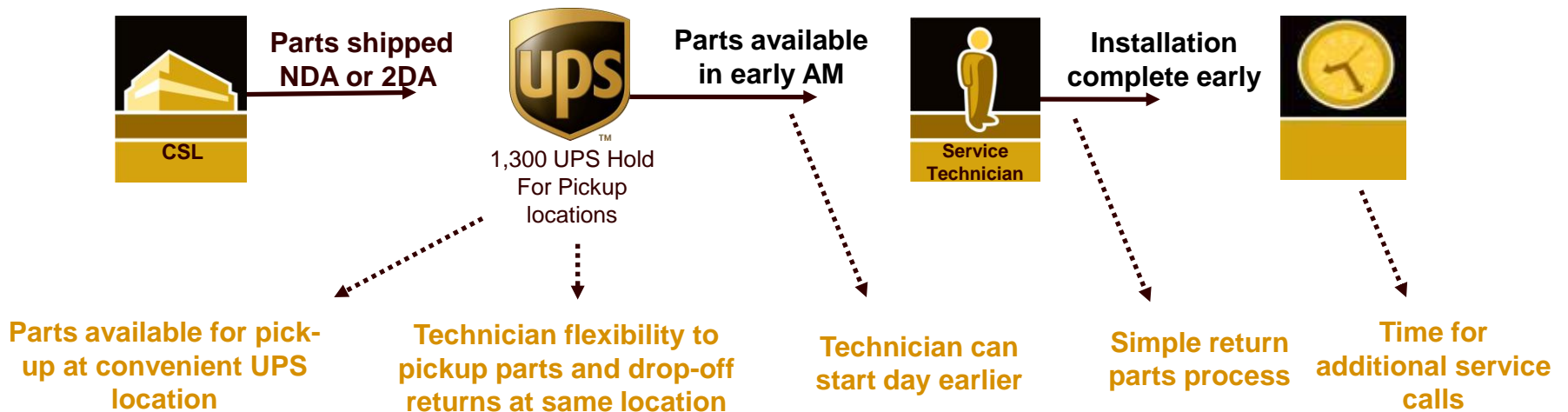
**Customer**

# Improving the Returns Process

## Before – Typical Technician Experience



## After – Technician Efficiency with UPS



# Inventory Strategy

- Large scale
- Greater distance from end user
- Increases costs
- Generates more emissions





# Global Field Stocking Locations

- Determine optimal number of warehouses
- Possible reduction (or addition) of warehouses
- Goal: Balance warehousing with transportation costs to meet SLAs



# End of Life Compliance





# Thank you





# Greening Your Supply Chain – UPS Customer Perspectives

Jordan Colletta, Vice President of Customer Technology Marketing,  
UPS

March 23, 2010

Decision Green<sup>SM</sup>



# Panel

*Lenora Campos*

*Vice President of Communications*

**TOTO USA, Inc.**

*Nishat Kakar*

*Vice President*

**EPI Enterprises, LLC**

*Leonard Moskowitz*

*Chief Financial Officer and Vice President of Finance*

**Testa Produce**



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# Green IT at UPS: Innovation Within Our Own Walls...and Package Cars

Nick Costides, Vice President of Information Services, UPS  
March 23, 2010

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# Our Approach to **Green** IT Innovation

- **Operate our network in an environmentally-responsible manner**
  - Optimize our network to minimize miles driven/ flown
- **Invest in technology and business innovation**
  - Reduce our dependency on fossil fuels, minimize the amount of energy and fuel consumed



# Technology and Sustainability

- Technology is at the foundation of our sustainability efforts
- IT drives our operations and enables us to save time, cut energy use, and reduce emissions.





# Green Tech at UPS

- Energy conservation
- Waste management
- Fuel conservation



# “Cool” Approach to Conserving Energy

- Our Windward data center is **massive**
  - **172,000** square feet on **25** acres
  - **43,500** square feet of computer floor
  - Monitors information from about **15.1 million** packages delivered daily



# “Cool” Approach to Energy Conservation

- **The Goal:** Minimize energy used to keep it running and keep it cool
- **The solution:** Plate heat exchanger installed to allow shut-down of chillers for five months each year
  - 650,000-gallon thermal water storage tank to support plate head exchanger
- **The Results:**
  - Cut energy consumption by 1.4 million+ kW
  - Reduced carbon emissions by 1,000 tons annually
  - Annual savings of \$400,000





# Waste Management at UPS

## ■ Two-pronged approach:

- Minimize production of waste
- Responsible disposal and recycling



# Cutting Paper Use with the DIAD

Now in its fifth edition, the DIAD makes our drivers' lives easier and more efficient

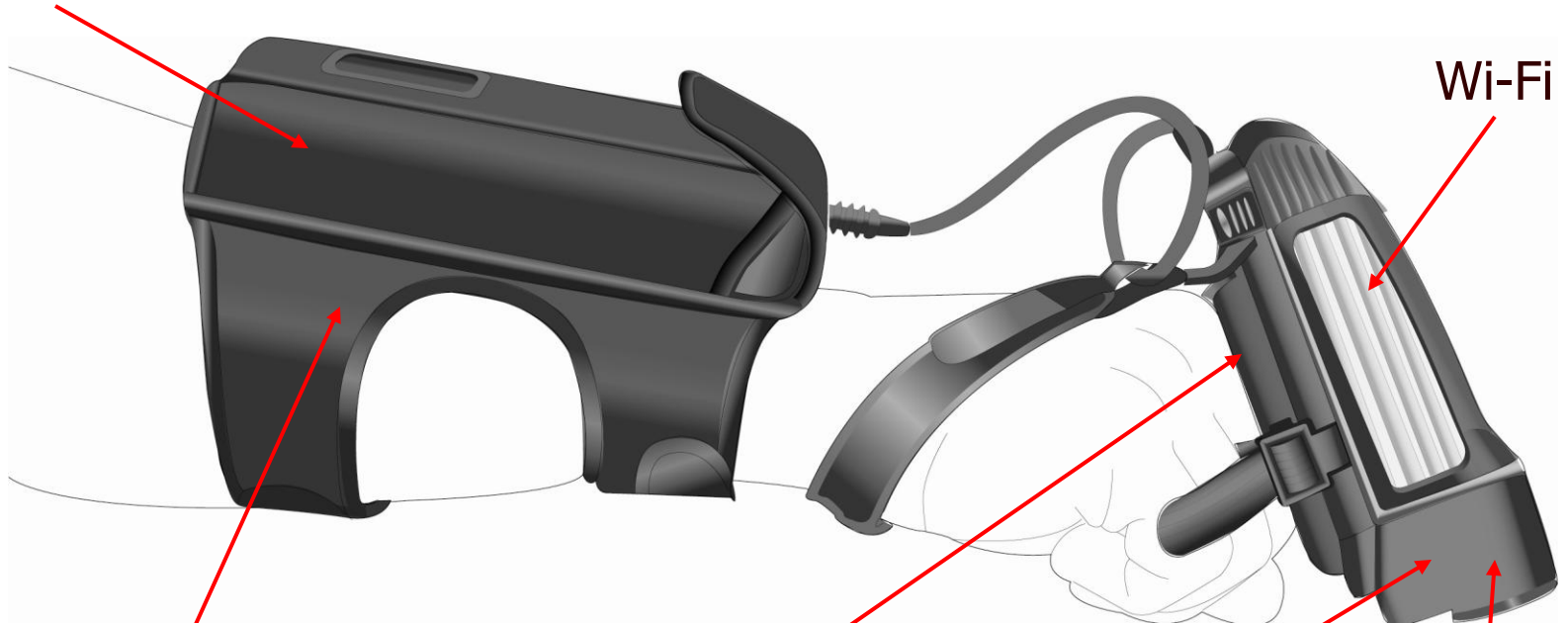
- Drivers scan barcodes on packages to capture detailed information that we use to optimize our network and delivery routes
- Communicates detailed directions for pick-ups and deliveries to drivers
- First device in the industry to switch on-the-fly between cellular carriers, independent of cellular technology

The DIAD saves 89 million sheets of paper per year, or the equivalent of about 7,308 trees.



# HP Handheld sp400 All-in-One

8 Hour Battery



Wi-Fi

Non-absorbent  
Battery Holder

Gel-Pack  
Hand Mount

2D Imager



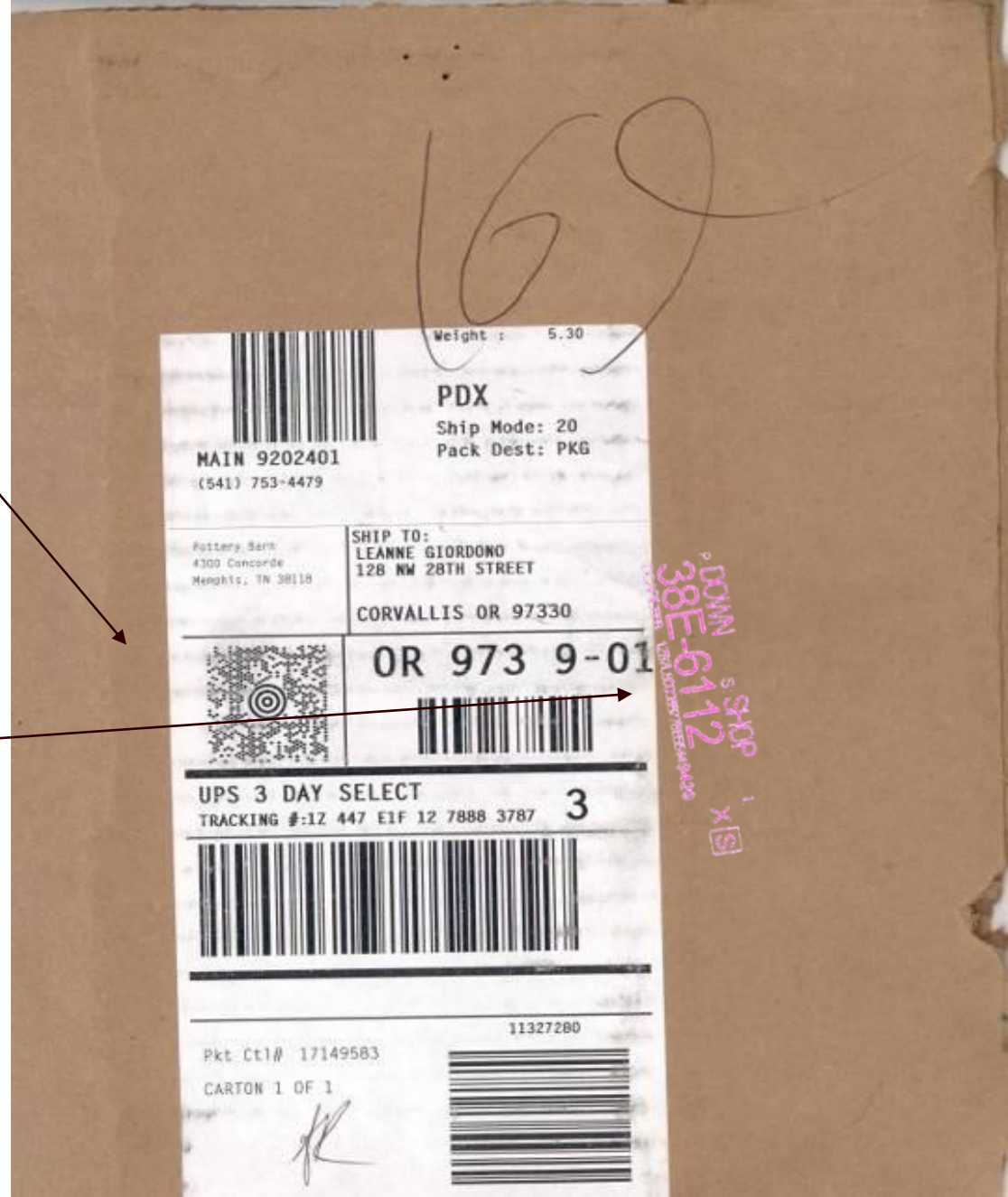
# Before

- Package arrives at distribution center with shipping label
- UPSer uses laser scanner to scan package barcode
- Package info sent to server, server figures out which shelf/which truck package should go to based on days' workload – generates "PAL" which is printed and applied to box
- UPSers downstream read PAL for truck/shelf info



# After

- Package arrives at distribution center with shipping label
- UPSer uses Imprinter to scan package barcode
- Package info sent to server, server figures out which shelf/which truck package should go to based on days' workload – generates "PAL" which is printed directly on box (not actual size)
- UPSers downstream read PAL for truck/shelf info



# E-Waste Disposal Program

- Technology is obviously a central part of our success, but devices and gadgets don't last forever.

Since its inception in 2000 through the early part of 2009, we've used the program to put more than **25 million pounds of e-waste** out to pasture in a responsible, efficient way.





# Efficient Air Fleet

## ■ Airline Fuel Conservation

–Surface Management System helps plan takeoffs and reduces idling ... **350,000 gallons of fuel saved annually**

## ■ LIDO

–Innovative routing technology ... **saved almost 1 million gallons of fuel**

## ■ ADS-B

–Proactive management of departure queues to reduce fuel usage and emissions ... **only fleet equipped with this technology**



# Reducing Fuel Use with Telematics

*Telematics* provides insight into our vehicles' performance and condition, and identifies opportunities to reduce miles



# Conserving Fuel with Telematics



Seat Belt Sensor  
Bulkhead Sensor  
Reverse Sensor



# Results with Telematics

***The initiative is helping UPS reduce fuel consumption and environmental impact by:***

- Reducing time spent idling by 15 minutes per driver, per day
- Pinpointing opportunities to coach drivers to adjust techniques for maximum fuel economy
- Optimizing vehicle performance and improving maintenance



# Package Flow Technologies

*Routing, scheduling and dispatching technologies that increase our efficiency and reduce fuel usage and emissions*



# Package Flow Technologies

## *Efficient Distribution and Fuel Conservation*

### ■ Smart Labels

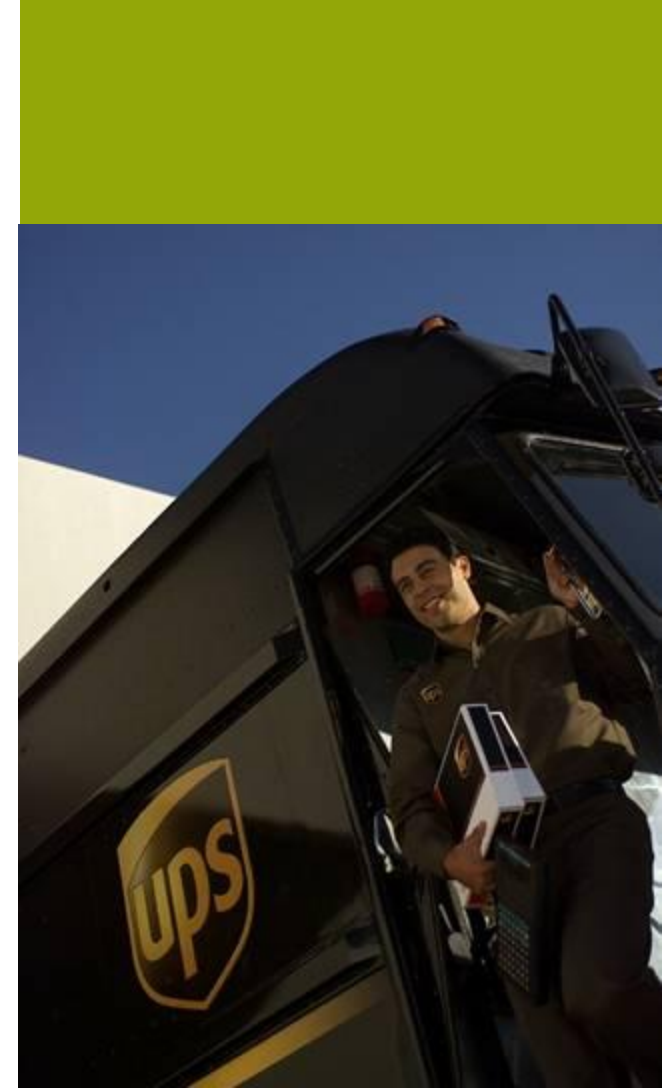
- Acts as a “trip ticket” through our network

### ■ DIAD

- Links to Global Positioning Satellites

### ■ Package Flow Technology

- Provides maximum coverage while reducing road miles – 28.5 million miles annually
- Saves fuel -- 3 million gallons annually
- Reduces emissions – 32,000 metric tonnes annually





Thank you



# UPS Smart Pickup<sup>sm</sup> : Sometimes it *is* easy being green

Bernie Reeb, New Product Director, UPS

March 23, 2010

Decision Green<sup>SM</sup>



# Sometimes It /s Easy Being Green

- “Being green” has a whole new meaning today
- Today’s businesses want and need to be “green” – and it can be a challenge
- The service we’re announcing today is:
  - A smart step to help small and medium-sized businesses green their supply chains
  - Easy, convenient, transparent



*Studies show companies that succeed at going green can increase profits and share price*



# What Is UPS Smart Pickup<sup>SM</sup>?

- One of three Enhanced Pickup Options UPS offers
- An example of UPS's Decision Green® efforts
- A green service for customers who want a scheduled pickup, but may not ship a package every day



# Other Enhanced Pickup Options

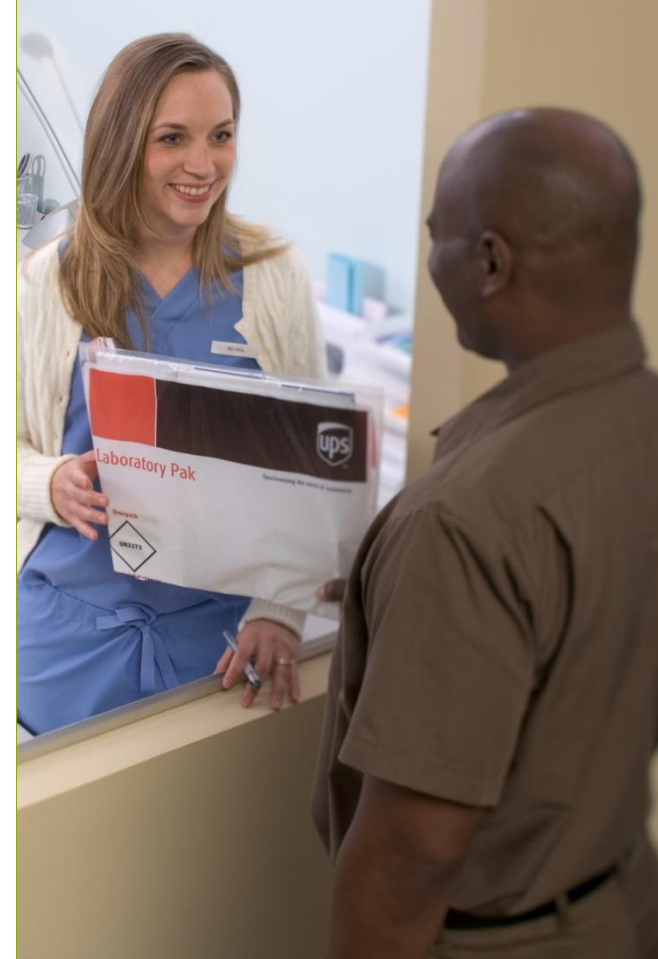
- Day-Specific Pickup
- Daily On-Route Pickup
- On-Call Pickup®



*UPS offers the widest choice of small package pickup options.*

# Who Needs UPS Smart Pickup<sup>SM</sup>?

- Small and medium-sized businesses that don't ship packages on a daily basis
- Businesses interested in cost-effective ways to “green” their supply chains





# Powered by UPS Technology

- \$1 billion annual investment
- Package Flow Technology/Smart Labels
- Delivery Information Acquisition Device (DIAD)
- Tech-enabled customer shipping systems
  - UPS Worldship® 2010
  - UPS CampusShip®
  - UPS Internet Shipping



# How UPS Smart Pickup Works

## Dispatching customer pickups only when needed

- UPS drivers stop at millions of customer locations every day
- Customer processes a package using a UPS shipping system, which communicates with UPS's internal systems
- System automatically notifies a driver – via DIAD – that a pickup is required
- A pickup is completed *only* when a customer processes a shipment in a UPS shipping system
- Entire process is automated, transparent



# Significant Fuel, Emissions Savings

- 8 million miles per year shaved from delivery routes
- 790,000 gallons of fuel
- 7,800 metric tonnes of CO<sub>2</sub>
- Equivalent of removing nearly 1,500 passenger cars from the road for an entire year



*UPS is making changes today for a better tomorrow.*



# Benefits to UPS Customers

- Cost-efficient way to go green
- Most comprehensive network
- One driver
- Widest choice of options
- Automated, transparent – EASY



Thank you





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