Cisco and Intermec -
Improving Warehouse Management
With Mobility

Intermec

- May 19th 2009 -

CISCO

Agenda

- Warehouse Focus and Trends

- Warehouse Mobility and Advanced Technologies

- Intermec Warehouse Operations Offerings

- Summary

Intermec

CISCO

Agenda

- Warehouse Focus and Trends

- Warehouse Mobility and Advanced Technologies

- Intermec Warehouse Operations Offerings

- Summary

Intermec

CISCO

The Supply Chain Program Market

- Supply Chain Management to grow 7% to $9.2B

- WMS Lifespan is 11 Years With Last Significant Growth From 1995 – 2000

- Early Adopters Looking Upgrade or Replace Systems With More Technologically Advanced, Scaleable Solutions
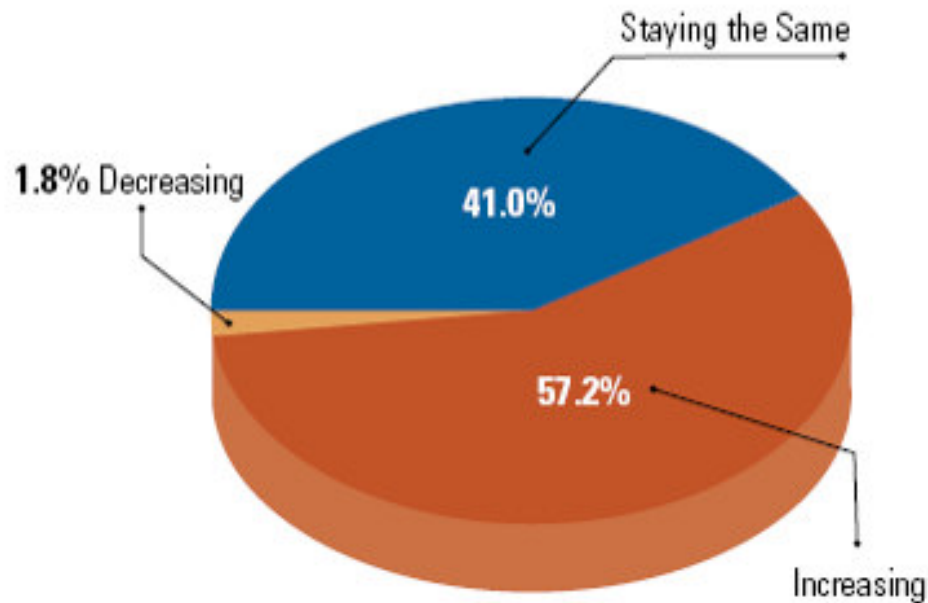
Source ARC and AMR

Intermec

CISCO

The Integrated Supply Chain
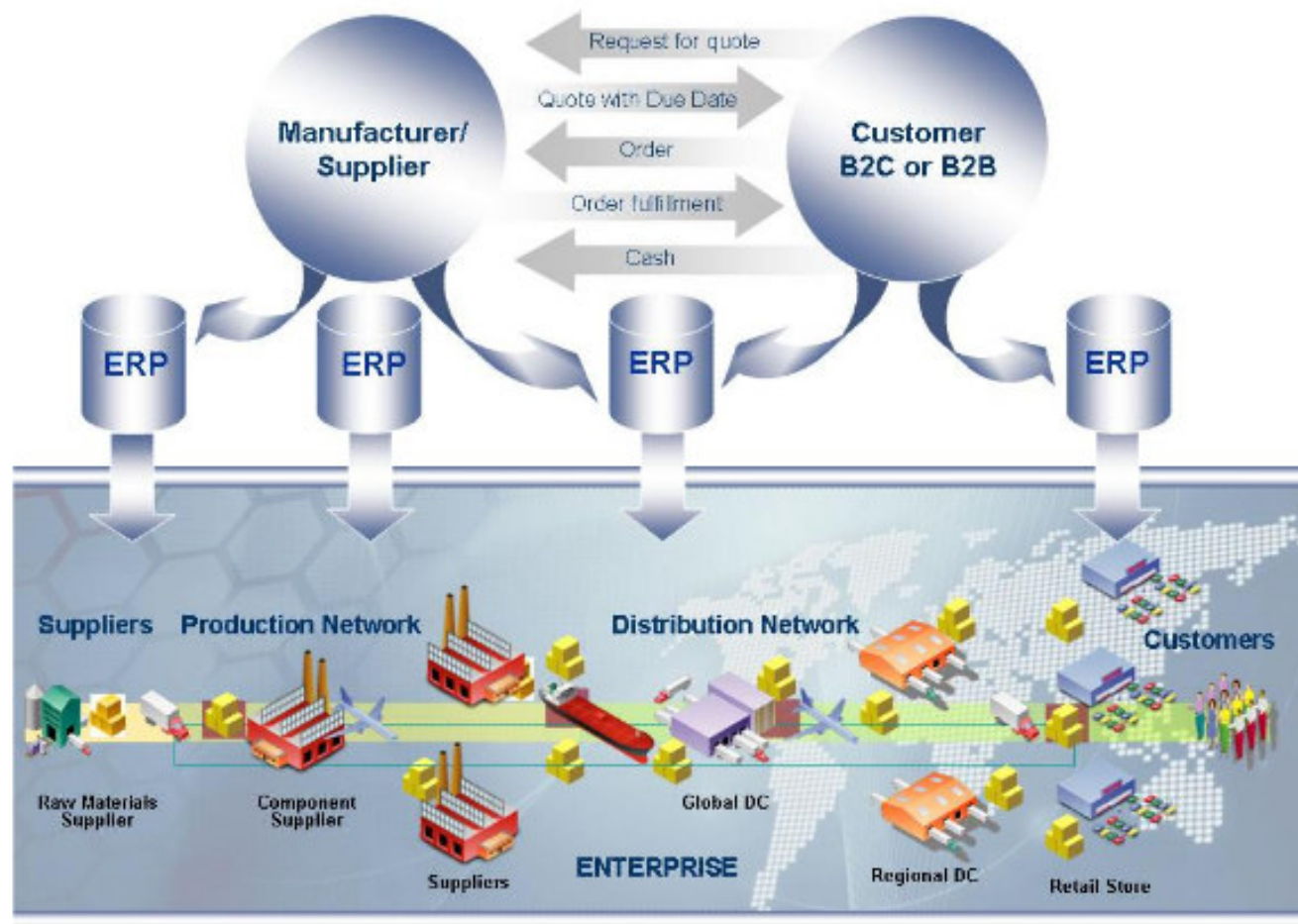
Source: Aberdeen Group, February 2009

Increasing Interest in Improving Warehouse Metrics Performance

FIGURE 6. INTEREST IN MEASURES ON THE PART OF SENIOR MANAGEMENT DURING 2007

Staying the Same — 41.0%

1.8% Decreasing

57.2% — Increasing

Source: WERC DC Measures 2008

Intermec

CISCO

Most Popular Metrics, Performance Levels

TABLE 5. TOP 10 MOST POPULAR MEASURES USED – 2008

Metric	% Using	2007 Rank
On Time Shipments – **Customer**	87.78%	1
Order Picking Accuracy (Percent by Order) – **Customer**	75.16%	3
Annual Work Force Turnover – **Employee**	70.19%	8
Fill Rate Line – **Outbound Operations**	69.26%	6
Fill Rate Order – **Outbound Operations**	68.70%	10
Peak Warehouse Capacity Used – **Capacity**		
Average Warehouse Capacity Used – **Capacity**		
Inventory Count Accuracy by Dollars/Units* – **Capacity**		
Dock-to-Stock Cycle Time, in Hours – **Inbound Operations**		
Distribution Costs as a % of Sales – **Financial**		

*Inventory Count Accuracy by Dollars/U
differently in previous st

Gaps can be small between Media and Best-In-Class

TABLE 16. MEDIAN AND BEST IN CLASS PERFORMANCE OF MOST POPULAR ME

Measure	MFG – General		Consumer Products		Retail	
	Median	Best	Median	Best	Median	Best
On Time Shipments	98	99.52	98.6	99.78	96.45	99.04
Order Picking Accuracy (Percent by Order)	97	99.6	99.1	99.93	99.4	99.8
Annual Work Force Turnover	10	2.4	11.1	5	18	<1
Fill Rate Line	97.5	99.01	98.1	99.32	98	99.92
Fill Rate Order	96	98	97	99.5	98.7	99.99
Peak Warehouse Capacity Used	85	99	94.1	100	96	100
Average Warehouse Capacity Used	85	90	84.8	90.63	90	95
Inventory Count Accuracy by Dollars/Units	99	99.92	99.75	99.9	99.8	99.99
Dock-to-Stock Cycle Time, in Hours	11	3	5.75	4	12	3

CISCO
Intermec®

Source: WERC DC Measures 2008

Warehouse Technology Trends

TABLE 21. WHAT TECHNOLOGY ARE YOU USING?				
Tools	Completed	Implementing	Planned	Not Planned
RF Scanners/Bar Coding	69.00%	8.30%	13.80%	9.00%
Advanced Shipping Notification (EDI/ASN)	52.80%	12.80%	12.00%	22.40%
Warehouse Management Systems	50.00%	15.30%	24.70%	10.00%
Conveyors	38.90%	6.10%	17.60%	37.40%
Cart Based Picking	30.10%	4.90%	7.30%	57.70%
Transportation Management Systems	24.40%	13.70%	20.60%	41.20%
Sortation Systems	16.40%	1.60%	9.80%	72.10%
Carousels (Vertical and Horizontal)	15.00%	0.00%	5.00%	80.00%
RFID	13.80%	7.80%	14.70%	63.80%
Pick to Light	11.00%	2.50%	7.60%	78.80%
LMS (Labor Management System)	10.90%	10.90%	25.00%	53.10%
Automated Material Handling (AS/RS)	10.30%	0.90%	7.70%	81.20%
Slotting Systems (Outside of WMS)	7.60%	8.40%	14.30%	69.70%
Voice Directed Picking	6.00%	1.60%	16.30%	76.40%

Source: WERC DC Measures 2008

Intermec®

CISCO

Investment in Warehouse Mobility

- ~85% of all surveyed companies have warehouse mobility at least in their top 10 priorities

Exhibit I-5
Significance of IT Investment in Mobility
(% of respondents)

Top priority 8.4%

Top three priority 25.2%

Top five priority 21.5%

Top ten priority 29.0%

Not a priority 15.9%
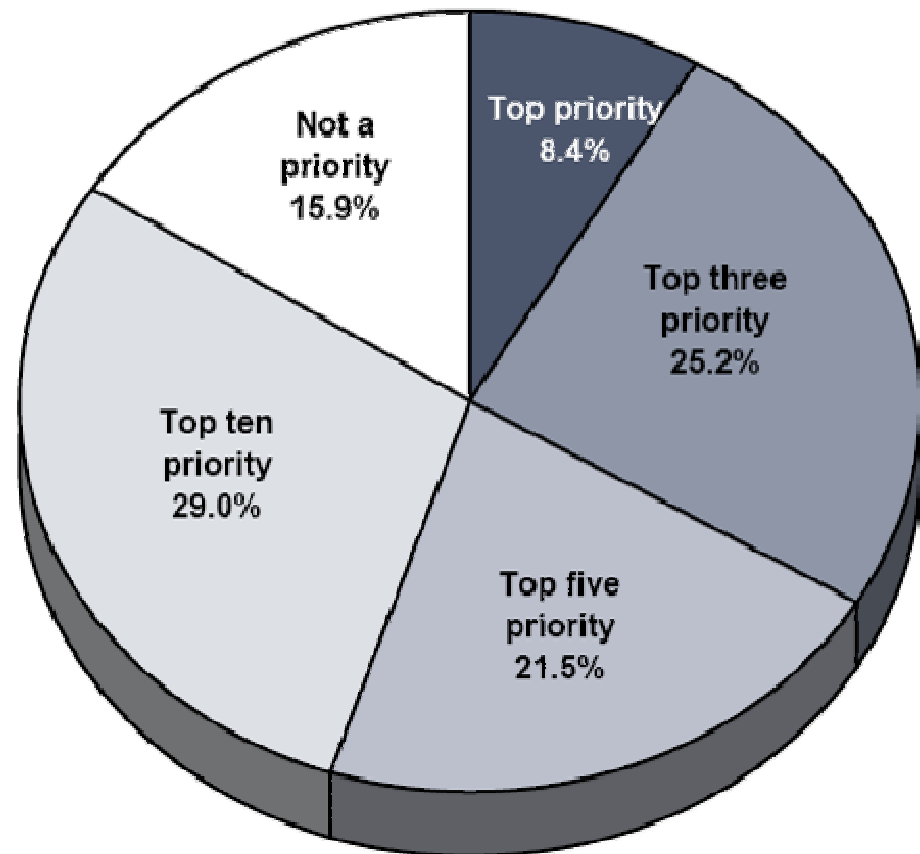
Source: VDC, Enterprise Mobility Solutions, Warehouse Market Analysis 1/080

Intermec

CISCO

Benefits of Mobility

- **Improved Worker Productivity**
  - Replaces Paper Based System
  - Reduces Worker Travel Time
- **Improved Resource Utilization**
  - Real-time Inventory Visibility Enables Reduced Inventory Levels
- **Improved Inventory Management**
  - Reduction of Inventory Impacts Capital Expenditures
  - Reduced out-of-stocks
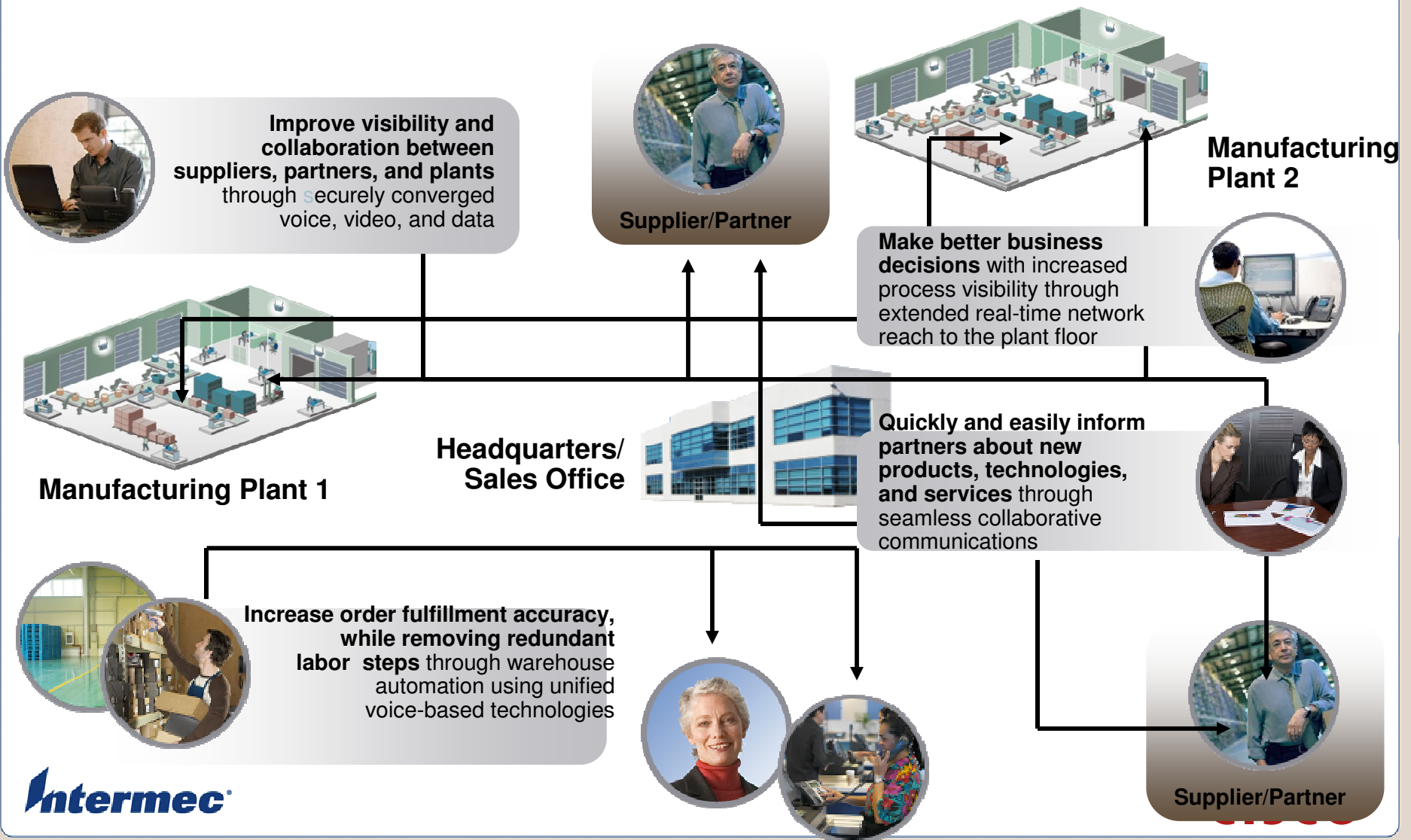 - Rapid Replenishment of Production Lines to Avoid Costly Delays

Intermec

CISCO

Mobile Device Selection Criteria
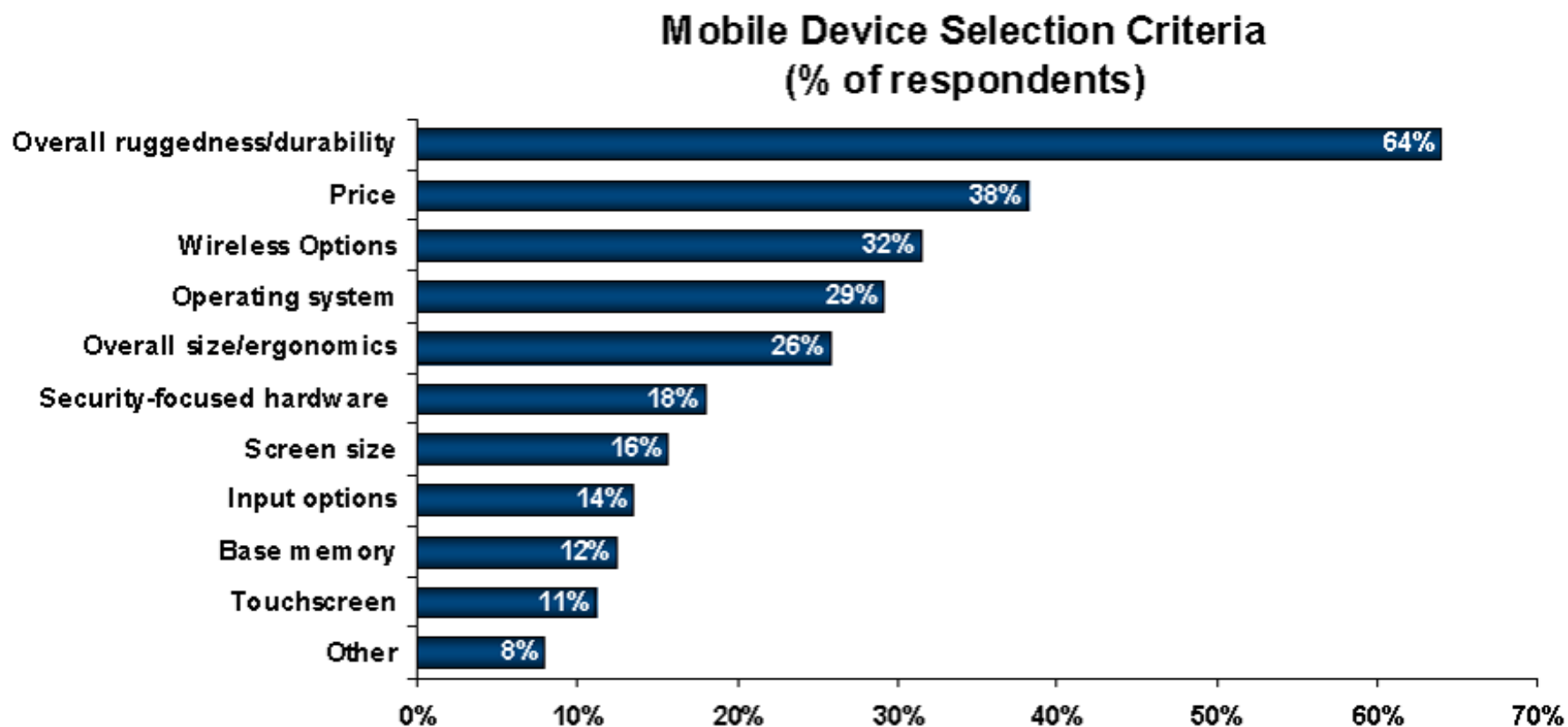
Source: VDC, Enterprise Mobility Solutions, Warehouse Market Analysis 12/08

Cisco's Supply Chain Agility Portfolio for Manufacturing

"Enable New Levels of Agility to Respond More Effectively to Change"

Improve visibility and collaboration between suppliers, partners, and plants through securely converged voice, video, and data

Supplier/Partner

Manufacturing Plant 2

Make better business decisions with increased process visibility through extended real-time network reach to the plant floor

Manufacturing Plant 1

Headquarters/ Sales Office

Quickly and easily inform partners about new products, technologies, and services through seamless collaborative communications

Increase order fulfillment accuracy, while removing redundant labor steps through warehouse automation using unified voice-based technologies

Supplier/Partner

Intermec

Intermec & Cisco DC/Warehouse Solutions

Real Time Location Services

Automatic RFID Tag Reading with fixed and forlklift mount interrogators

Track Deliveries and print receipts with mobile computers and printers

Accurate Pallet and Container Tracking with RFID labels/tags

High Speed Data Collection with Cisco Wireless LAN infrastructure

Scan and RFID with Windows driven fixed/vehicle mounted computers and cordless EX scanners

SmartSystem™ for remote device deployment and management

Faster Picking with speech recognition

Accurate Inventory Scanning with mobile computers and RFID interrogators

Integrated Physical Security

Real Time Order Tracking and Customer Service with WWAN and GPS enabled mobile computers and printers

Wireless Barcode/RFID Label Printing with barcode and RFID enabled printers and media

Agenda

- Warehouse Focus and Trends
- Warehouse Mobility and Advanced Technologies
- Intermec Warehouse Operations Offerings
- Summary

Intermec

CISCO

Warehouse UC Voice Picking

Provides an open-standards, affordable warehouse voice solution to increase order accuracy, reduce redundant labor steps, and improve the work environment.

Manufacturer Warehouse

Manufacturer Call Center

- Increased order accuracy to >99.8%
- Delivery time reduced 80% (60 to 10 minutes)
- Measurable ROI in 6–9 months

to speech

Warehouse Worker

Distributor orders product

Distributor

Dàtria®

Voice-Directed Benefits

- Improved Accuracy
  - Reduce errors by 85% over paper
  - Customer retention, improved profit

- Increased Productivity
  - 15 - 20% for case pick
  - Up to 50% for piece pick

- Increased Safety
  - Heads up awareness
  - Reduced worker comp claims

- Reduced Training Time
  - Typically 50% less time
  - Voice leads workers through a process

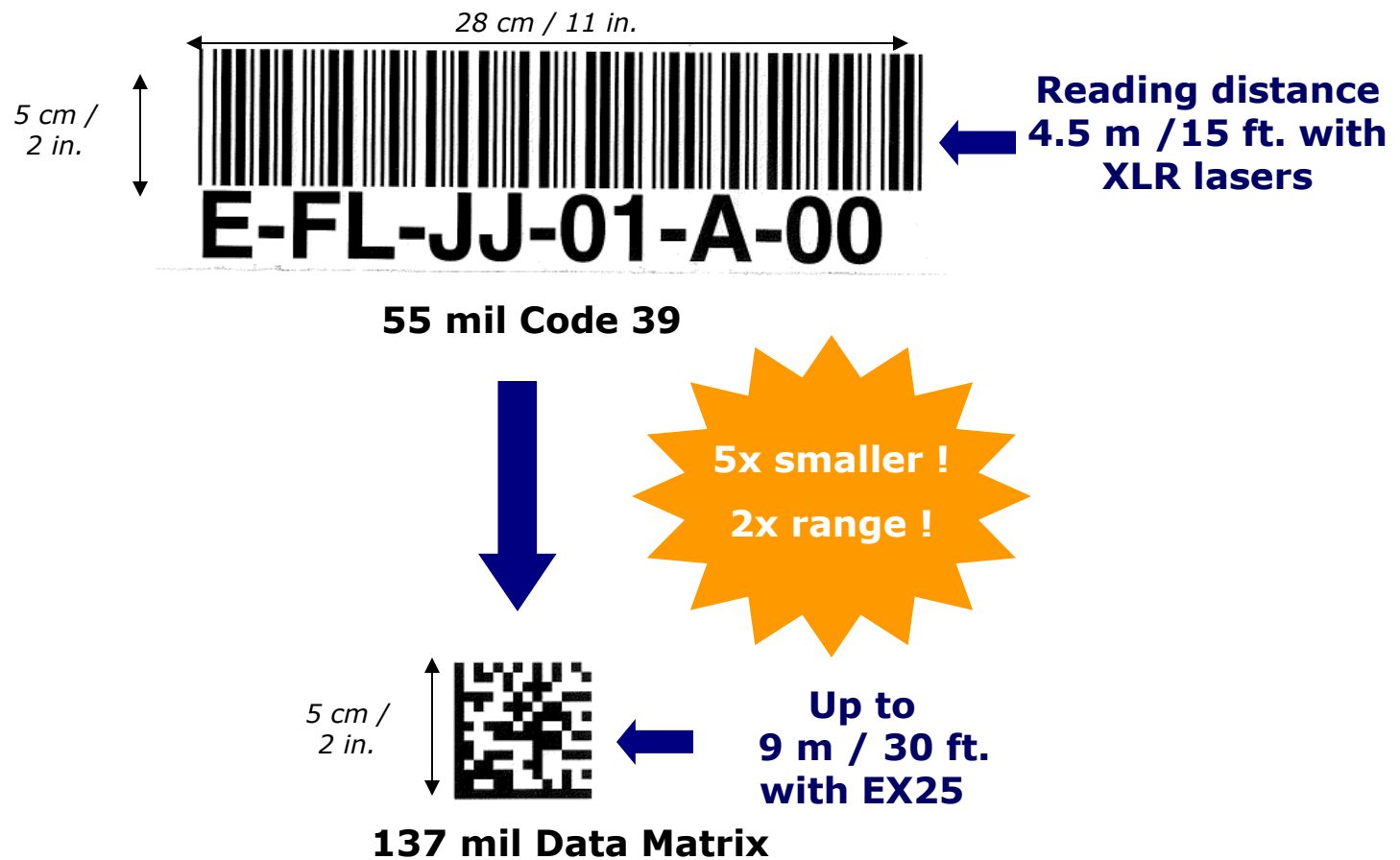- Reduced auditing man-hours

- Eliminates paper

Push-To-Talk

CK3 with headset and adapter

Intermec

CISCO

2D Adoption is Growing: Why?

- Increasing use due to compliance initiatives and standards

- Trend towards marking smaller items

- Need for more information to travel

  - Item, serial, and lot numbers, manufacture and ship dates, where the item traveled

  - EDI is not always a good solution

- Focus on traceability issues (e.g. Grey market)

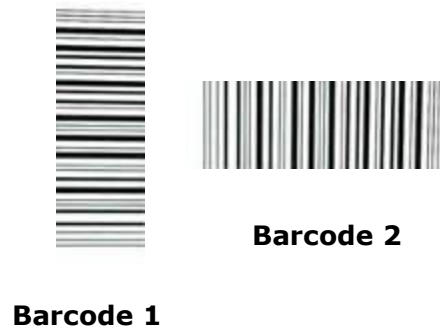- 2D symbols are proven

- Advances in area imager technology

Intermec

CISCO

More Range

28 cm / 11 in.

5 cm / 2 in.

E-FL-JJ-01-A-00

55 mil Code 39

Reading distance 4.5 m /15 ft. with XLR lasers

5x smaller !

2x range !

5 cm / 2 in.

137 mil Data Matrix

Up to 9 m / 30 ft. with EX25

Comparison of paper labels encoding same 10 characters information

Intermec

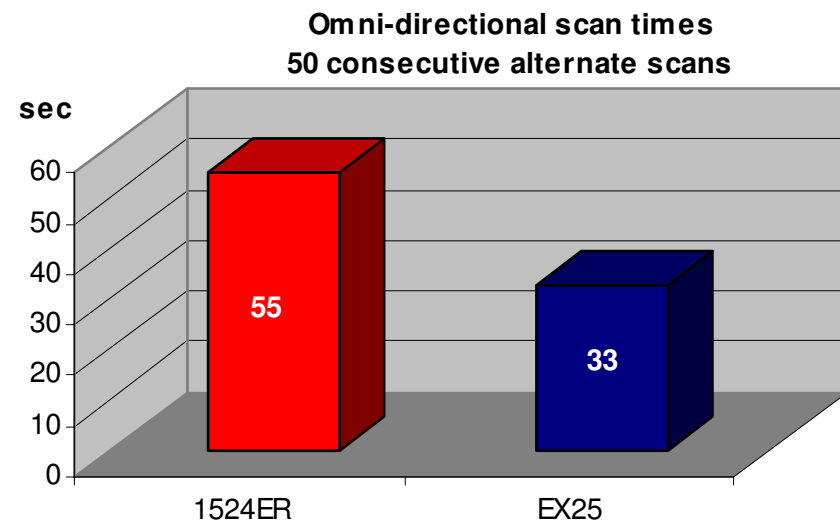**CISCO**

Intermec EX Imaging: Saving Time and Money

- **Omni-directional:** Saves the user time and, reduces fatigue and injury by reading any type of bar code in any orientation.

- **Multi-device Functionality:** Only near/far scanner that can read 1D, 2D, composite and postal codes – *and capture images*. Eliminates need for multiple devices, reducing TCO and increasing productivity.

- **Ready for the future:** Supports 2D requirements of industry standards (ISO 15394, GM 1724, CEA, TCIF)
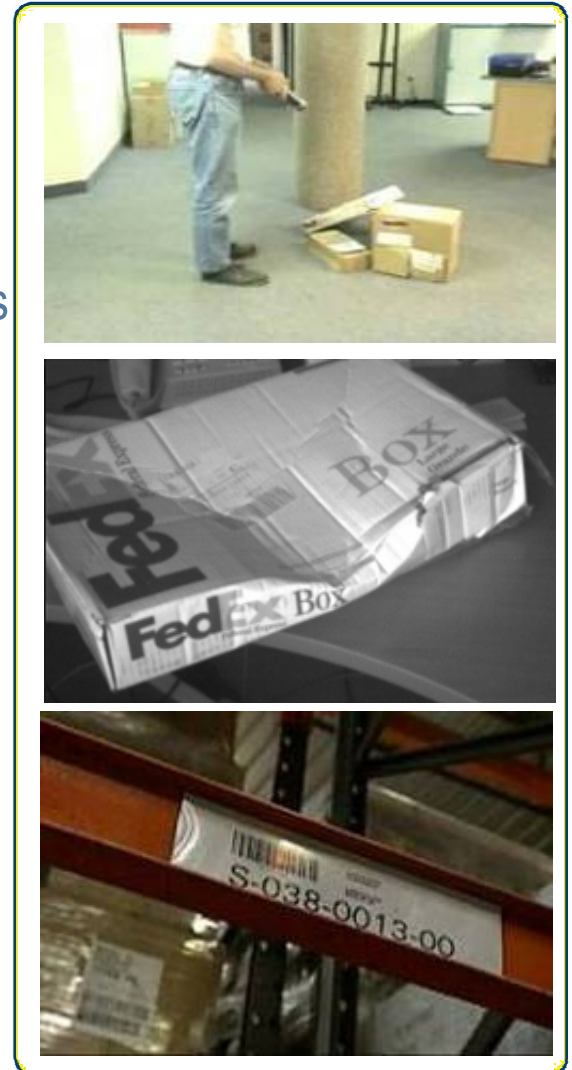

Intermec®
EX Imaging Technology

Intermec®

ıllıılı
CISCO

More Productive

Barcode 2

Barcode 1

Panel of users asked to scan
barcodes 1 & 2 consecutively 50 times

**Omni-directional scan times
50 consecutive alternate scans**

sec

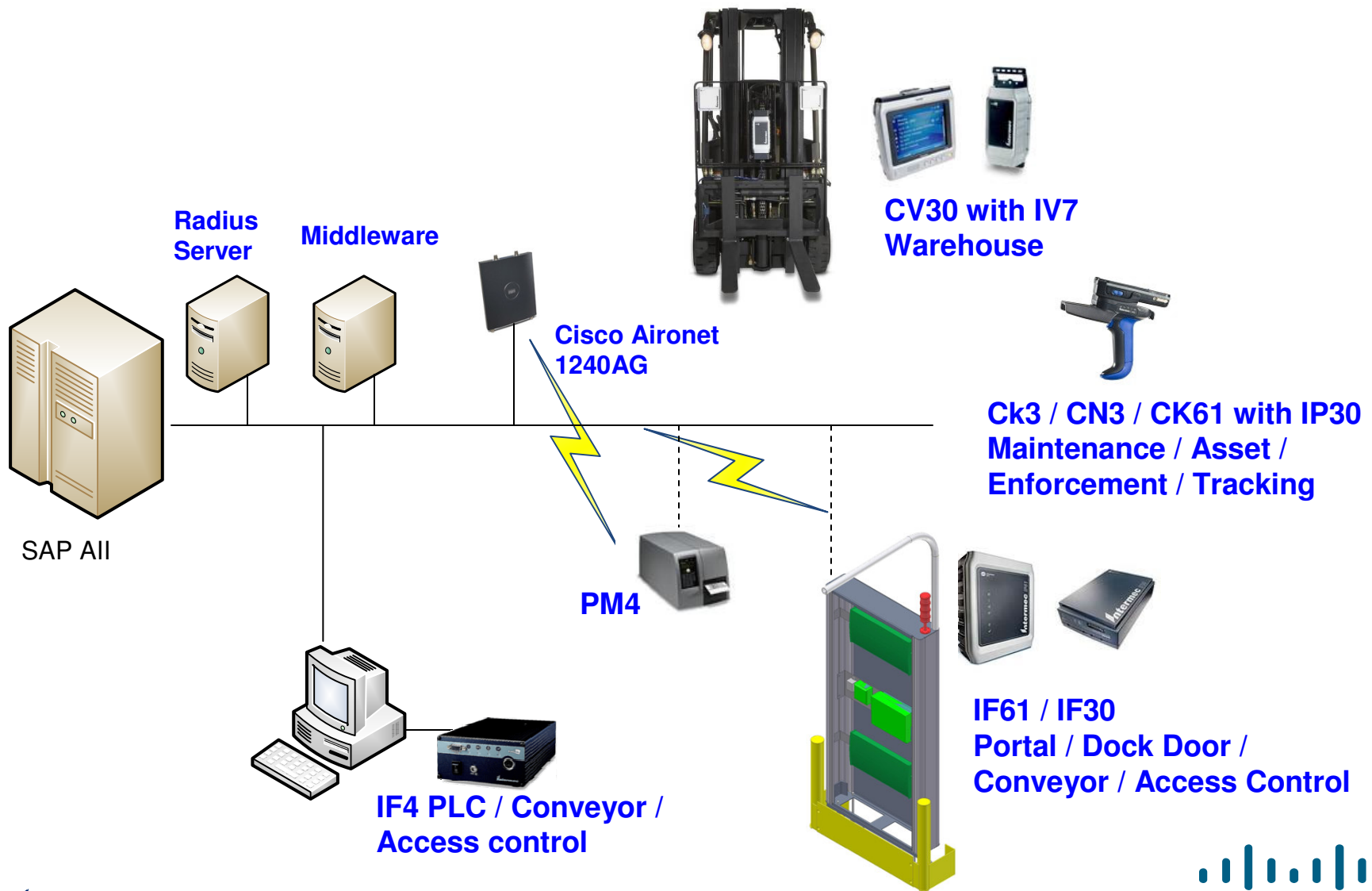|	
60	
50	
40	
30	55
20	33
10	
0	
1524ER	EX25

- EX 66% faster for omni-directional scanning

Intermec

CISCO

Image Capture in the Supply Chain

- Scan bar codes on items on the floor pallets or in upper racks
  - Omni-directional scanning while standing or on a forklift
  - At wide angles, through shrink wrap, on plain paper labels

- Proof by image
  - Damaged items
  - Outdated freight
  - Proof of delivery
  - Insurance claims

- Can combine scanned bar code and image
  - Resolve immediately mislabeled item

Intermec

CISCO

RFID system architecture

Radius Server

Middleware

CV30 with IV7 Warehouse

Cisco Aironet 1240AG

SAP AII

Ck3 / CN3 / CK61 with IP30 Maintenance / Asset / Enforcement / Tracking

PM4

IF4 PLC / Conveyor / Access control

IF61 / IF30 Portal / Dock Door / Conveyor / Access Control

Intermec

CISCO

Fixed RFID Reader Application

- Application:
  - Conveyor
  - Access control
  - Portal

Intermec

CISCO

Mobile RFID Reader Application

- Applications
  - Item level tracking
  - Picking
  - Shipping & receiving
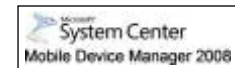 - Maintenance & field service
  - Any "exception" handling

Intermec

CISCO

Agenda

- Warehouse Focus and Trends

- Warehouse Mobility and Advanced Technologies

- **Intermec Warehouse Operations Offerings**

- Summary

CK3 Mobile Computer is Warehouse/DC Ready

- Windows Mobile 6.1 with MS SCMDM 2008
- 802.11a/b/g WLAN w/ Cisco CCX 4, Bluetooth & Ethernet
- Easy add-on RFID
- **Intermec** | SmartSystems™
- 3 Intermec imaging/scanning options
- QVGA color display w/ touch screen
- 38 or 51 keypads with function keys
- Terminal emulation and browser options
- Supports VoIP, walkie-talkie and voice/speech

Designed for Windows Mobile™

System Center Mobile Device Manager 2008

CISCO Compatible

Intermec

CISCO

Intermec Printer Benefits

- Increased productivity/accuracy
  - Faster printing – faster to print first label and overall
  - Wireless for on-demand printing, print where labels will be applied
    - Less walking to a printer, higher probability right label is applied
  - Smart printing – can act as a PLC or print without a computer
  - Automatic Bar Code Adjustment for print head adjustment for a detected fault dot
  - RFID capability
- Increased up-time
  - Fast, easy serviceability
  - Simple user-replaceable printhead replacement
  - Device management, remote diagnostics
  - Designed to withstand rugged environments

Intermec

CISCO

Intermec – A Comprehensive RFID Offering

IP30 / CK3: Adaptable In-Premises Workhorse

The IP30 and CK3 combine to provide a broad range of data collection and communication features into a **lightweight, slim package**. The solution supports businesses in a variety of **in-premises applications**, improving operational performance metrics, simplifying IT support and controlling operating costs.

Key Features

- Globally certified snap-on RFID
- Windows Mobile 6.1
- Latest generation of imaging technology
- Loaded with SmartSystems™ for device management

Key Applications

- Warehouse operations
- RFID compliance
- Enterprise asset tracking / management
- Parts management
- Retail item-level inventory

Intermec Handheld System

- Inventory
- Shipping/Receiving
- Pallet Tracking
- Cross Docking
- Picking
- Put Away
- Cycle Counting
- Yard Management

Hands-Free Scanning

Voice/Speech

Intensive Scanning

Batteries and Chargers

EX25

Pick and Run Combo

RFID

Vehicle Dock

On Demand Labels

Single Dock, Ethernet

Multi-dock

Intermec

CISCO

Intermec Forklift System

Vehicle Mount
Computers
CV30 and CV60

Hand Held Barcode
Scanners
SR61 and SR61T

Barcode Printers
PB50, PB32, PB22

RFID Tags
and Media

Adaptable Load
Backrest and
Antenna Cells

IV7 Vehicle Mount
RFID Reader

RFID Printers
and
Fixed Readers

Intermec®
RFID Services

Feasibility, Process
and Site Analysis,
plus Installation

Remote device
management

Intermec®
SmartSystems™

Other accessories as needed per application
(sensors, cables, power supplies, installation kits)

Intermec®

CISCO

Summary

- There are definite business benefits with new technologies that are available today

- The "best technology" is application dependent

- Mobile systems using Intermec and Cisco technologies are good investments, particularly today, as they deliver benefits now and in the future

- Intermec and Cisco can help you succeed in today's economy!

Intermec

CISCO

Comments or Questions?

If you have any questions, please feel free to contact me at
samran.phumkhokrak@intermec.com.

Thank You!