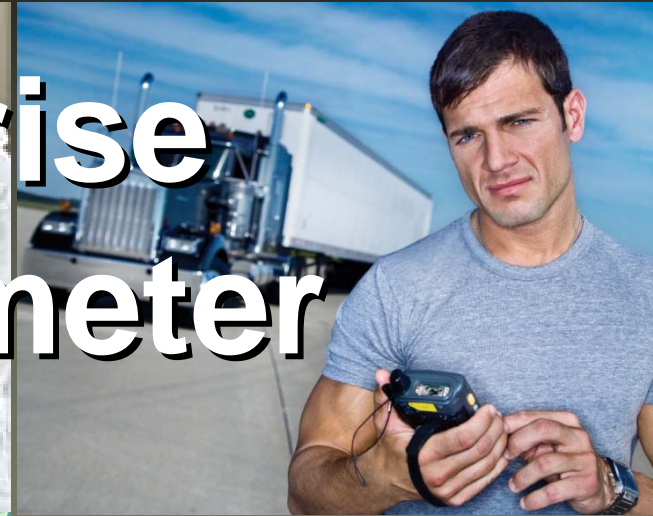




2009 Enterprise Mobility Barometer



State of Mobility in Manufacturing

Industry Challenges, Manufacturing



Industry Challenges

Inaccurate supply chain data

Excess inventory & shipping delays

Long equipment downtime

Enterprise Mobility Barometer



Enterprise mobility has emerged as a top strategic initiative among leading global organizations.



To better understand emerging trends in the Enterprise Mobility market, Motorola regularly conducts independent market research.



Provides the industry's deepest view into the mobility mindset via direct feedback decision-makers, the mobile workforce and mobility channel entities.

The Enterprise Mobility Barometer provides an understanding of the opportunities and challenges that mobility poses to enterprises.

Enterprise Mobility Barometer



Research and market trends study conducted to better understand the Information Technology (IT) environment and business strategies concerning enterprise mobility systems and mobility applications.



Key research areas of focus include:

- What are the major strategic mobility issues that concern IT/enterprise mobility decision-makers?
- How various enterprises and mobile workers utilizing mobility solutions and what are the associated benefits?
- Which mobile technologies have penetrated the enterprise and what are the mobile workforce investments expectations for 2009?
- Which vertical industry segments and regions are adopting mobility solutions and why? What industries or segments have higher/lower mobility budgets?
- How are different segments of mobile workers using enterprise mobility solutions?
- Which applications are most deployed and which are poised for greater adoption?

Enterprise Mobility Barometer



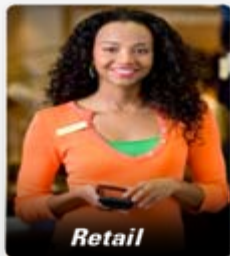
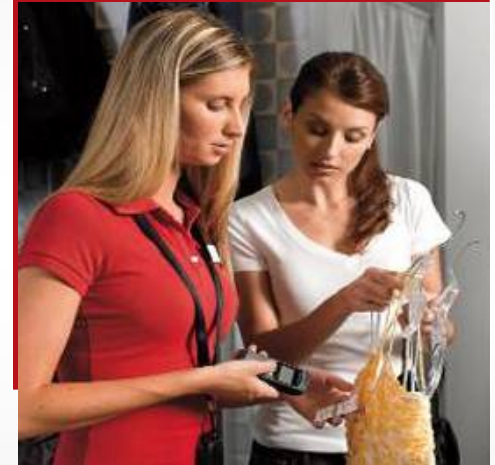
Enterprise Mobility Channel



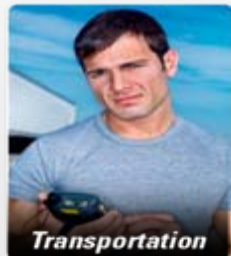
Mobility Decision-Maker



Mobile Workforce



Retail



Transportation



Manufacturing



Healthcare



Energy



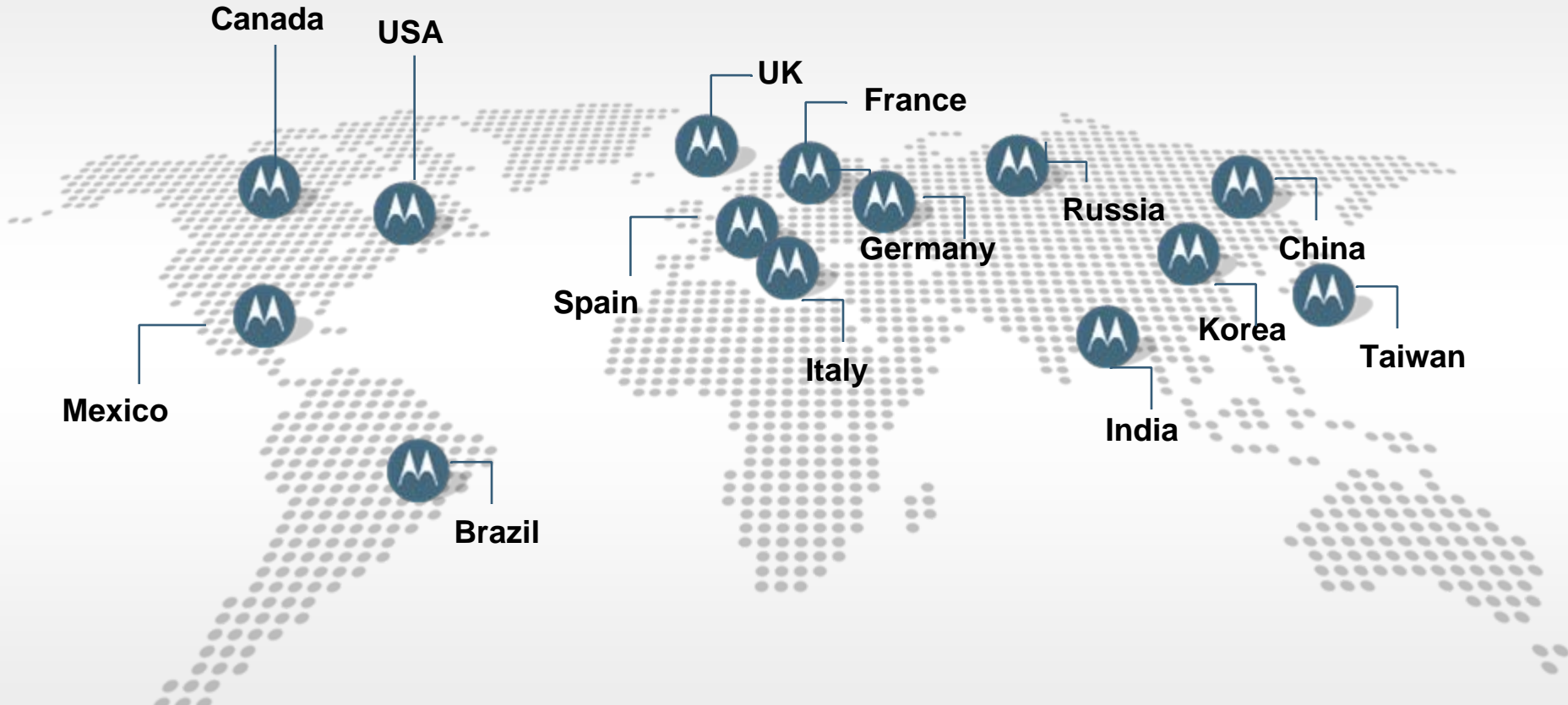
Government

Enterprise Mobility Barometer



- 3,300+ online and phone-based survey of IT and telecom decision makers
- In-depth enterprise global B2B market research conducted in fourteen countries and spanning four continents
- Independent research study to measure attitudinal and behavioral decision making of IT executives in key industries:
 - Education
 - Energy & Natural Resources
 - Government
 - Healthcare
 - Manufacturing (Discrete / Process Industries)
 - Professional & Consumer Services
 - Retail & Hospitality
 - Telecom & Media
 - Transportation & Logistics
 - Wholesale Trade

Enterprise Mobility Barometer, Regional View

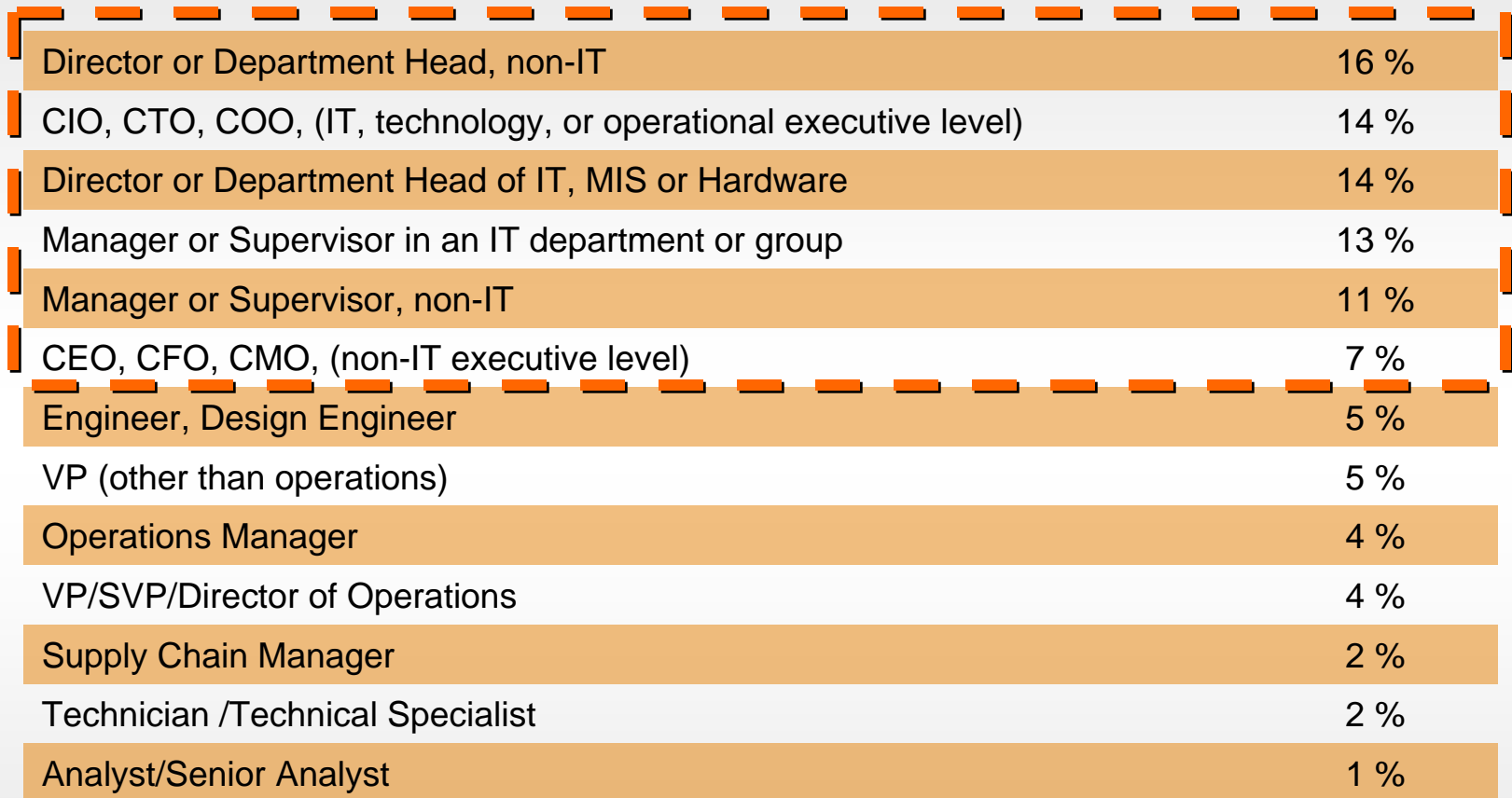


In-depth enterprise global B2B market research spanning four continents and fourteen countries.

Enterprise Mobility Barometer, Respondents



Q: “Which of the following best describes your role in your company?”



In-depth enterprise global B2B market research spanning four continents and fourteen countries....focused on key decision-makers.

Key Findings

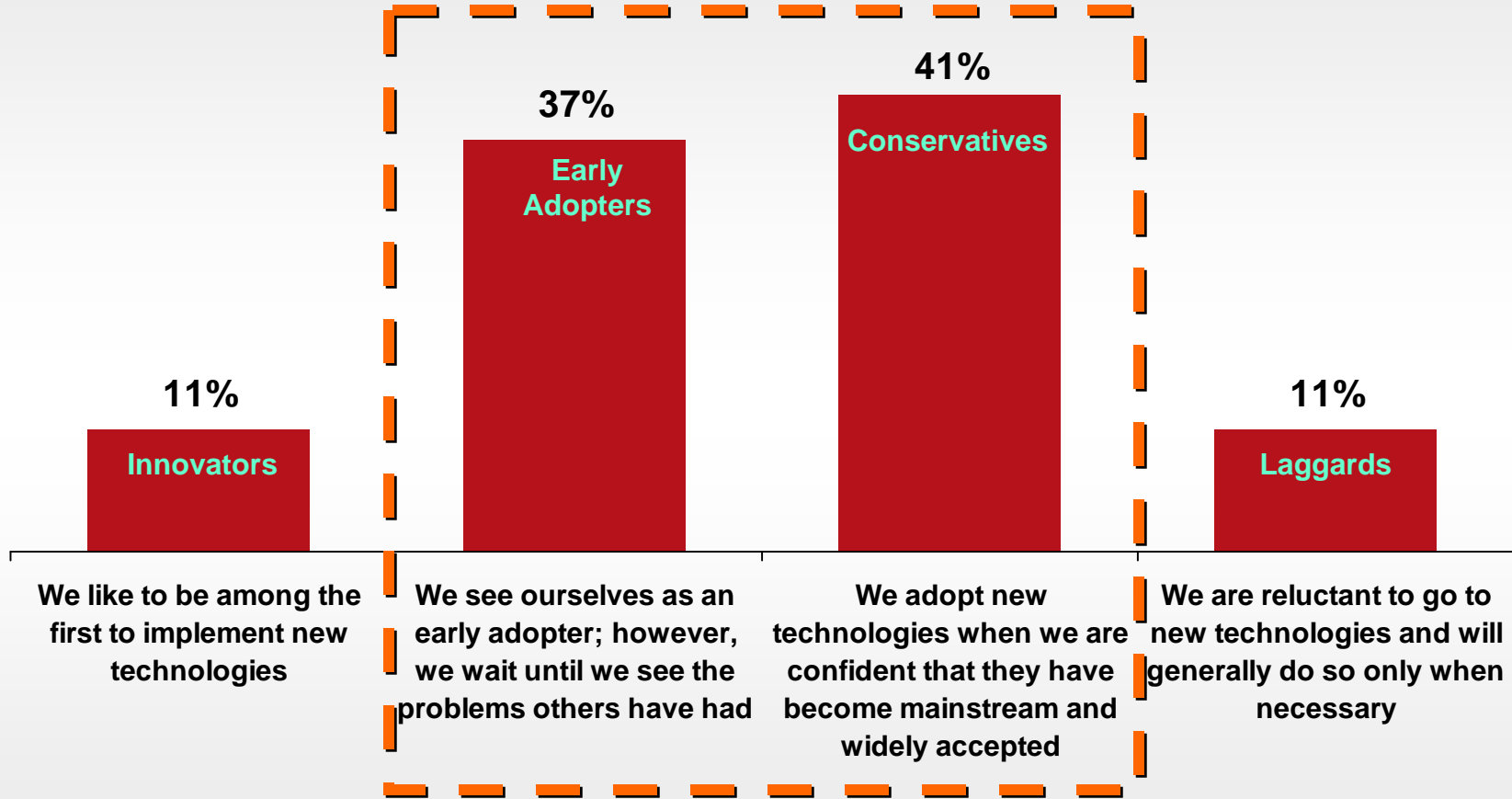


- **8 in 10 of Surveyed Manufacturers Report Increasing Reliance on Mobility.** Key decision-makers cited that mobility was more important for their organizations today than in 2008. This represents a nine percent increase from previous research, indicating that enterprise mobility applications continue to grow in importance as manufacturers look to boost operational efficiencies and increase productivity in the current macro-economic climate.
- **Seven in Ten Manufacturers View Mobility as Key to Converting Downtime into Productive Time.** Surveyed manufacturers identified that the mobilization of key applications enabled their organization to save or recover a daily average of 42 minutes per employee.
- **Over One-Quarter Identified Inventory/Materials Management and Sales Force Applications as Drivers for Continued Mobility Investments.** Key application investment on the shop floor was driven by inventory/materials management, and process-oriented applications such as WIP tracking, HMI/OI applications and quality control/quality assurance.
- **Demand Continues to Rise for Sales Force and Field Service Applications.** Nearly one-third of surveyed enterprises using field service applications citing an increase in business revenues/sales results and 25 percent reporting an increase in customer/partner satisfaction.
- **Emerging Technologies (Video, VoWLAN, FMC, Asset Mgmt. Solutions and Wireless Sensing)** are increasingly seen as integral to the manufacturing mobility investment strategy.



Technology Adoption, Manufacturing

Q: “How would you describe your company relative to how rapidly it adopts new important Information Technology (IT) and telecommunications (telecom) initiatives?”

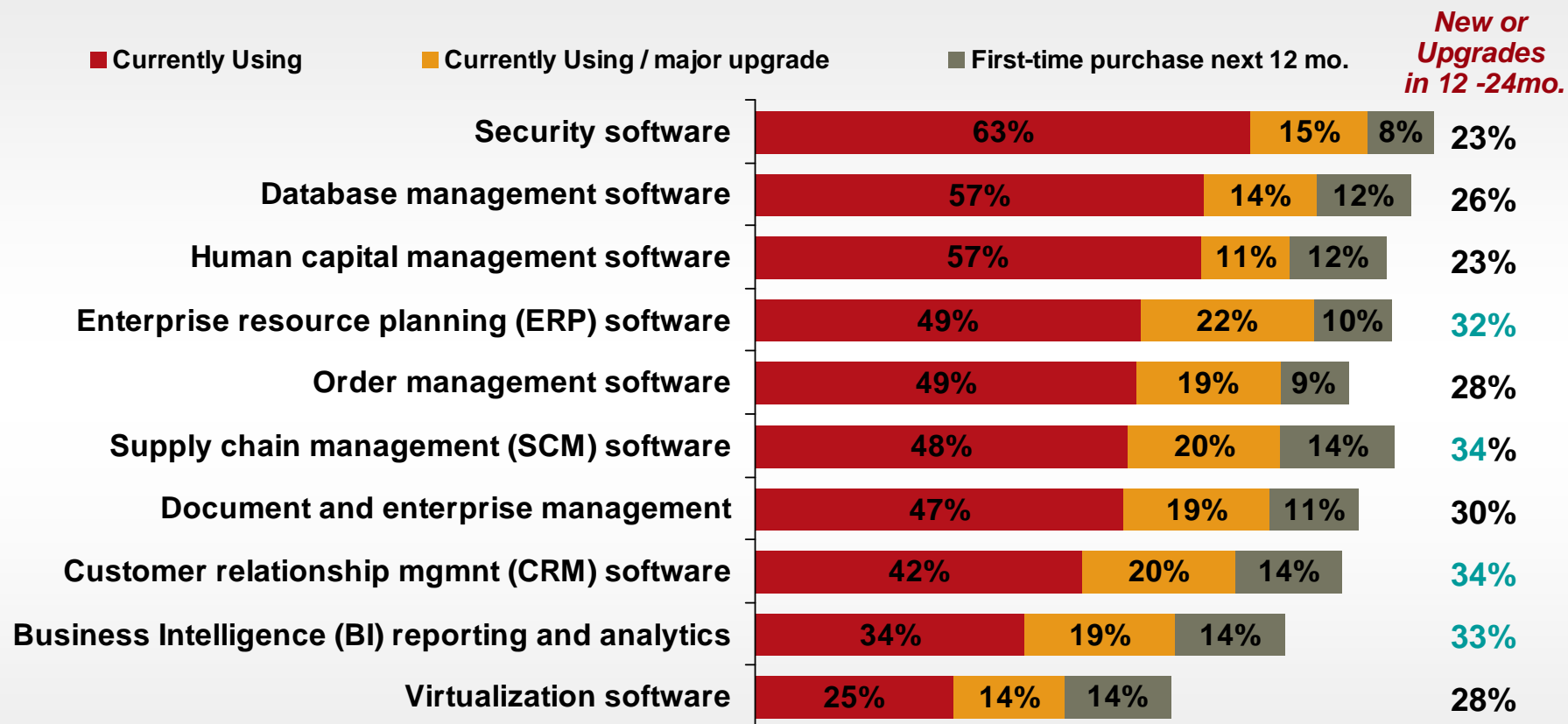


Surveyed manufacturing respondents adopt new technology when it is perceived “safe” – lagging other “more-innovative” peer industries.

Software Adoption, Manufacturing



“Q: Please indicate the deployment status for each of the following types of software in your company.”

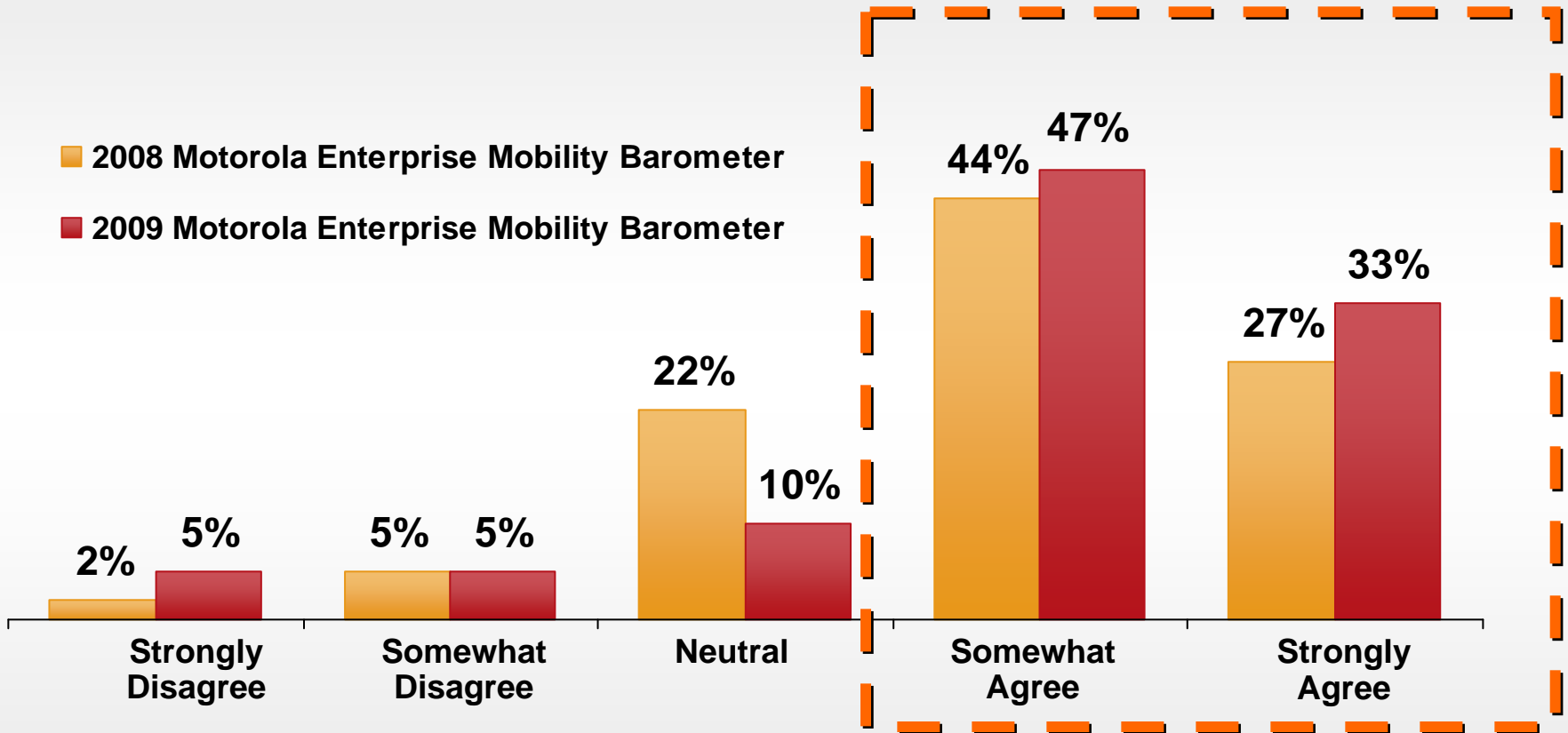


Strongest software activity is planned for ERP, SCM, CRM and BI solutions over the next twelve to twenty-four months.

Importance of Mobility in Manufacturing Rises



Q: “Mobile and wireless technologies are more important to my organization today than they were last year.”



80% of decision-makers report an increasing importance of mobility – a nine percent increase from previous research.

Importance of Mobility in Manufacturing Rises



Key Questions	All Respondents (Manufacturing)
Mobile and wireless technologies are more important to my company today than they were last year	80%
Mobile and wireless technologies have allowed my company to convert downtime into productive time by allowing real-time access to corporate resources	70%
My company has a competitive advantage by using mobile and wireless technologies	55%
My company has a set of clear guidelines for employees to utilize mobile and wireless technologies	60%

Over seven in ten surveyed decision makers view mobile and wireless solutions as key to converting downtime into productive time...



Mobility Benefits and Challenges

Q: “What are your organization’s key benefits and challenges with regard to the deployment of mobile and wireless technologies?”



**Key
Mobility
Benefits**



**Key
Mobility
Challenges**

- PRIORITY**
1. Empower employees to be more productive
 2. Reduce labor costs
 3. Order fulfillment accuracy / Asset tracking accuracy
 4. Improved customer satisfaction
 5. Impact on revenue generation

1. Security Concerns/Risks
2. Cost of hardware / TCO
3. Cost of software, integration, service and support
4. Integrating mobile apps with infrastructure
5. Hardware quality

Mobility Benefits, Manufacturing



“ Faster / more efficient distribution of information in rapidly changing market. ”

UK Manager
Aerospace Manufacturer, 250 -500 employees

“ ... quick connect with field reps; ability to quickly access the latest company info for PR, ordering, marketing and inter-connectivity between employees and management. ”

US Director of IT
Pharmaceutical Manufacturer, 2,000-5,000 employees

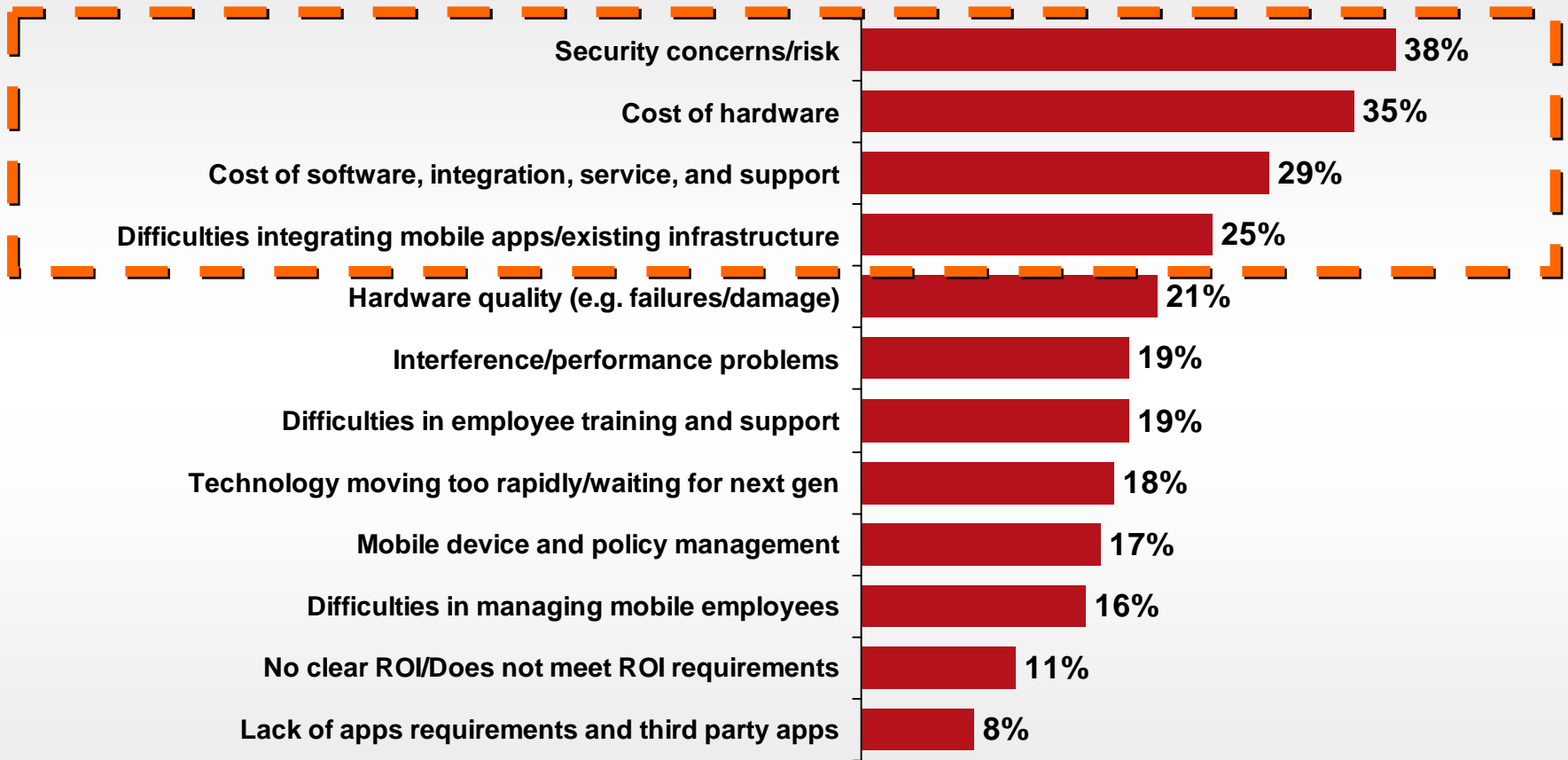
“ ...increased connectivity and ability to make changes in midstream. ”

US Operations Manager
Automotive Manufacturer, 250-500 employees

Mobility Challenges, Manufacturing



Q: “Which of the following challenges has your company encountered in the use of mobile and wireless technologies?”



Security concerns, cost of hardware and cost of software, integration, service, and support remain key cited challenges.

Regional Mobility Challenges, Manufacturing



Q: “Which of the following challenges has your company encountered in the use of mobile and wireless technologies?”

	All Manufacturing	Americas	Europe	APAC
Security concerns/risk	38 %	39 %	29 %	52 %
Cost of hardware	35 %	34 %	39 %	45 %
Cost of software, integration, service, and support	29 %	28 %	35 %	24 %
Difficulties in integrating mobile apps with existing infrastructure	25 %	22 %	30 %	38 %
Hardware quality (e.g. failures/damage)	21 %	20 %	20 %	31 %
Interference/performance problems	19 %	19 %	17 %	31 %
Difficulties in employee training and support	19 %	15 %	24 %	45 %
Technology moving too rapidly/waiting for next generation	18 %	17 %	16 %	28 %
Mobile device and policy management	17 %	20 %	9 %	10 %
Difficulties in managing mobile employees	16 %	17 %	7 %	24 %
No clear ROI /Does not meet ROI requirements	11 %	11 %	7 %	24 %
Lack of application requirements and third party application(s)	8 %	9 %	5 %	17 %

Security, cost of hardware and difficulties with integration and training are of greater concern in APAC; costs are of greater concern than security in Europe.

Mobility Challenges, Manufacturing



“ **...management of devices and security for the devices. Cost of replacing these things.** ”

U.S CIO/CTO
Pharmaceutical Mfg, 5,000-10,000 employees

“ **Employee training...people finding it hard to adapt to the new technologies.** ”

VP/Director of Operations
T&L,3PL, 500-1000 employees

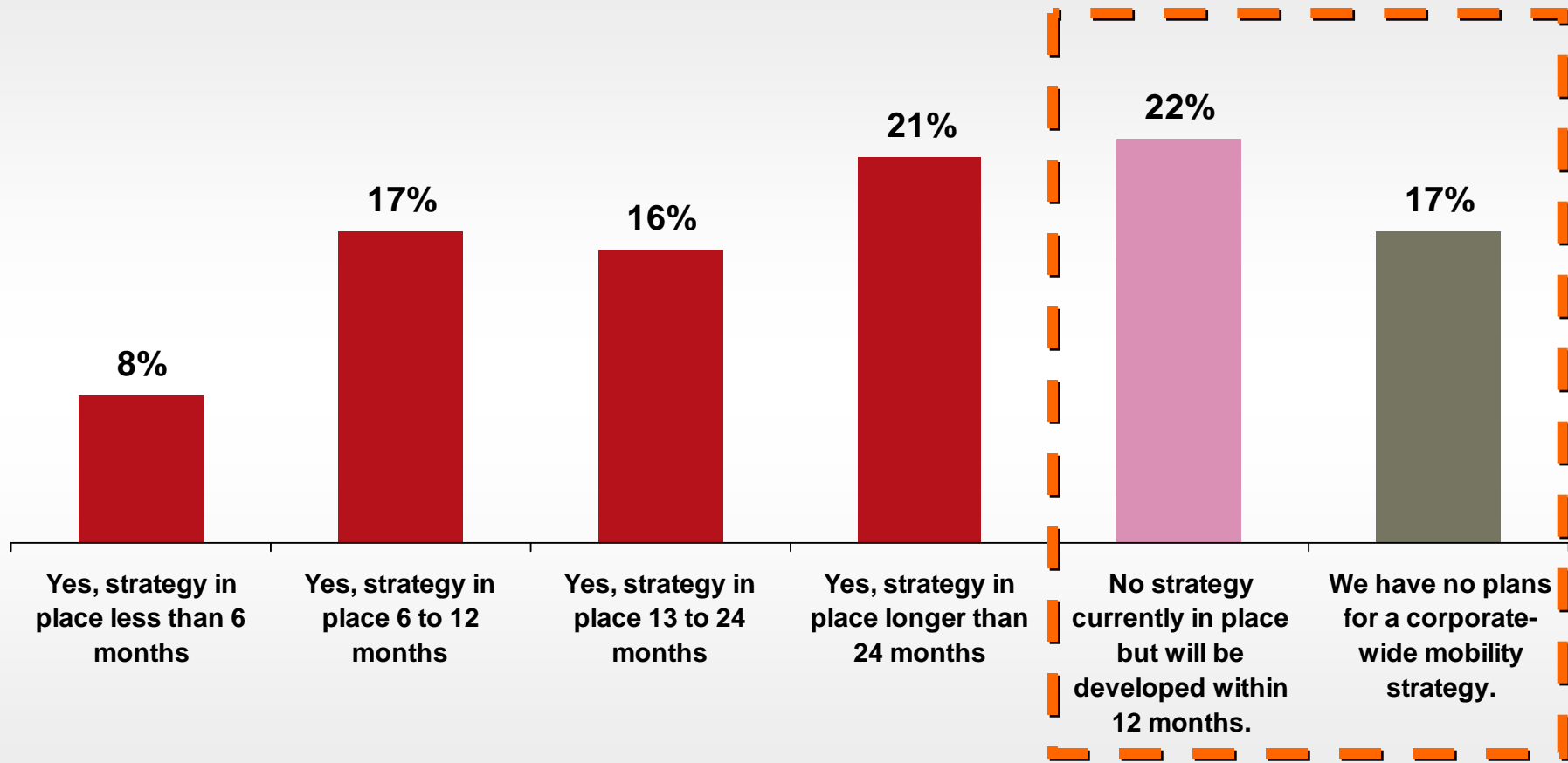
“ **.....workforce acceptance, re-engineering of back office.** ”

Director of IT,
F & B Manufacturer, 2,000-5,000 Employees

Manufacturing Mobility Strategy



Q: “Does your organization have a corporate-wide mobility strategy and how long has it been in place?”

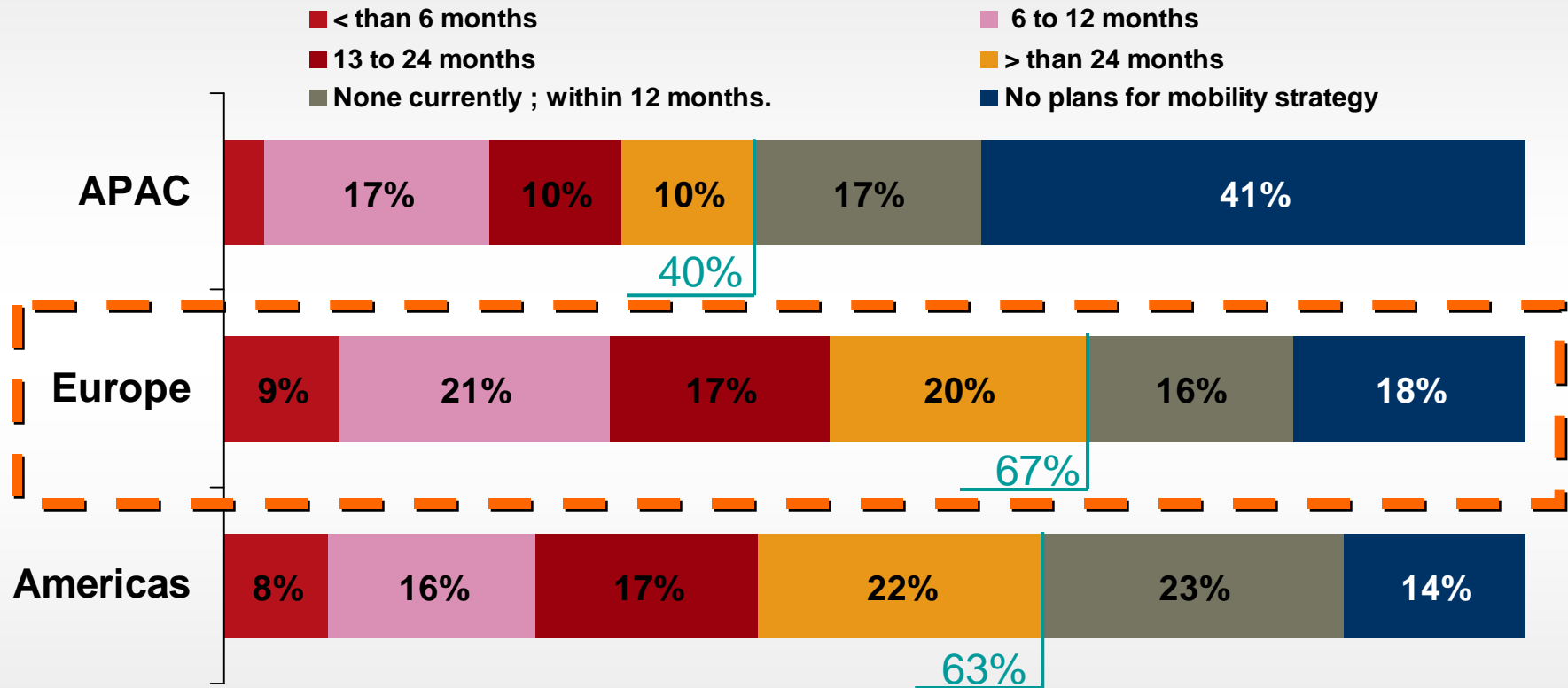


Nearly 4 in 10 surveyed manufacturing decision-makers either do not have a mobility strategies in place or do not plan to employ a corporate-wide strategy.

Manufacturing Mobility Strategy – Regional



Q: “Does your organization have a corporate-wide mobility strategy and how long has it been in place?”



Two-thirds of manufacturing respondents in Europe reported having a mobility strategy in place (67%), compared with 63% in Americas and 40% in APAC.



Manufacturing Mobility Responsibility

Q: “Which of the following departments within your company have final purchase and decision-making authority for mobile and wireless purchasing?”

IT Management	65 %
Management/Executive (e.g. President, CEO, etc.)	33 %
Finance/Accounts/CFO	19 %
Department/Line of Business Manager	19 %
Engineering/Communications/Telecom	14 %
Logistics/Supply Chain	10 %
Operations/Facilities Manager	9 %
Networking Manager/Consultant	7 %
Expected End-Users of Mobile Technologies	6 %
Sales	3 %

65% of respondents noted that IT management is driving mobility strategies in manufacturing...representing a sizeable YoY increase.



Financial Justification of Investment

Q: “Does your company use any of the following methods to financially justify mobile and wireless technology investments within your company?”

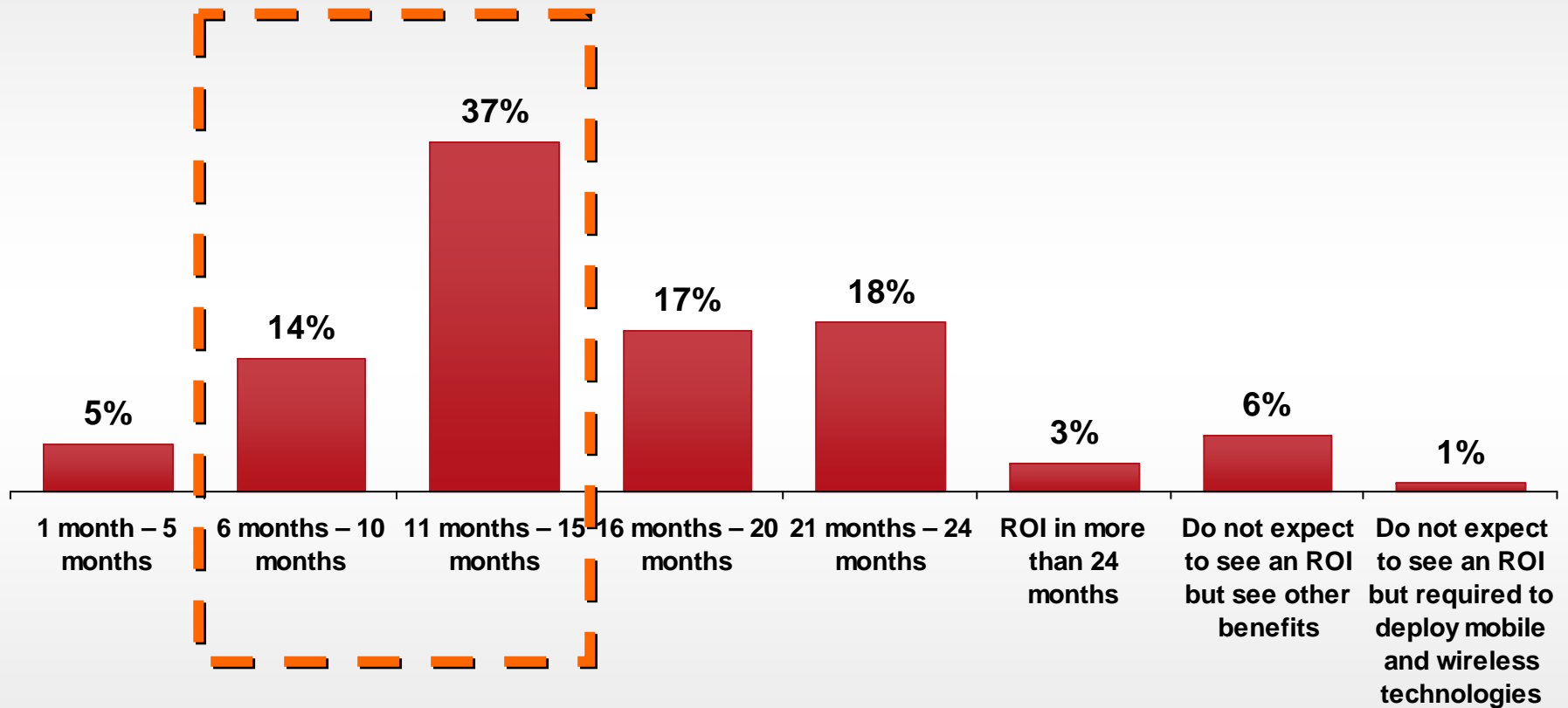
	All Manufacturing Respondents	Americas	Europe	APAC
Total Cost of Ownership (TCO)	34 %	30 %	49 %	41 %
Return on Investment (ROI)	32 %	32 %	34 %	31 %
Internal Rate of Return	21 %	20 %	17 %	41 %
Level of Strategic Fit	19 %	19 %	16 %	28 %
Compliance Requirement	16 %	13 %	24 %	17 %
Level of Project Risk	12 %	10 %	13 %	34 %
Net-Present-Values Payback Period or Break Even Point	12 %	9 %	20 %	24 %

TCO and ROI are the top two justifications in Europe and the Americas. Among APAC respondents, IRR and level of project risk are on par with TCO.

ROI Timeframe



Q: “What is the required timeframe for your company to realize their return on investment in mobile and wireless solutions?”

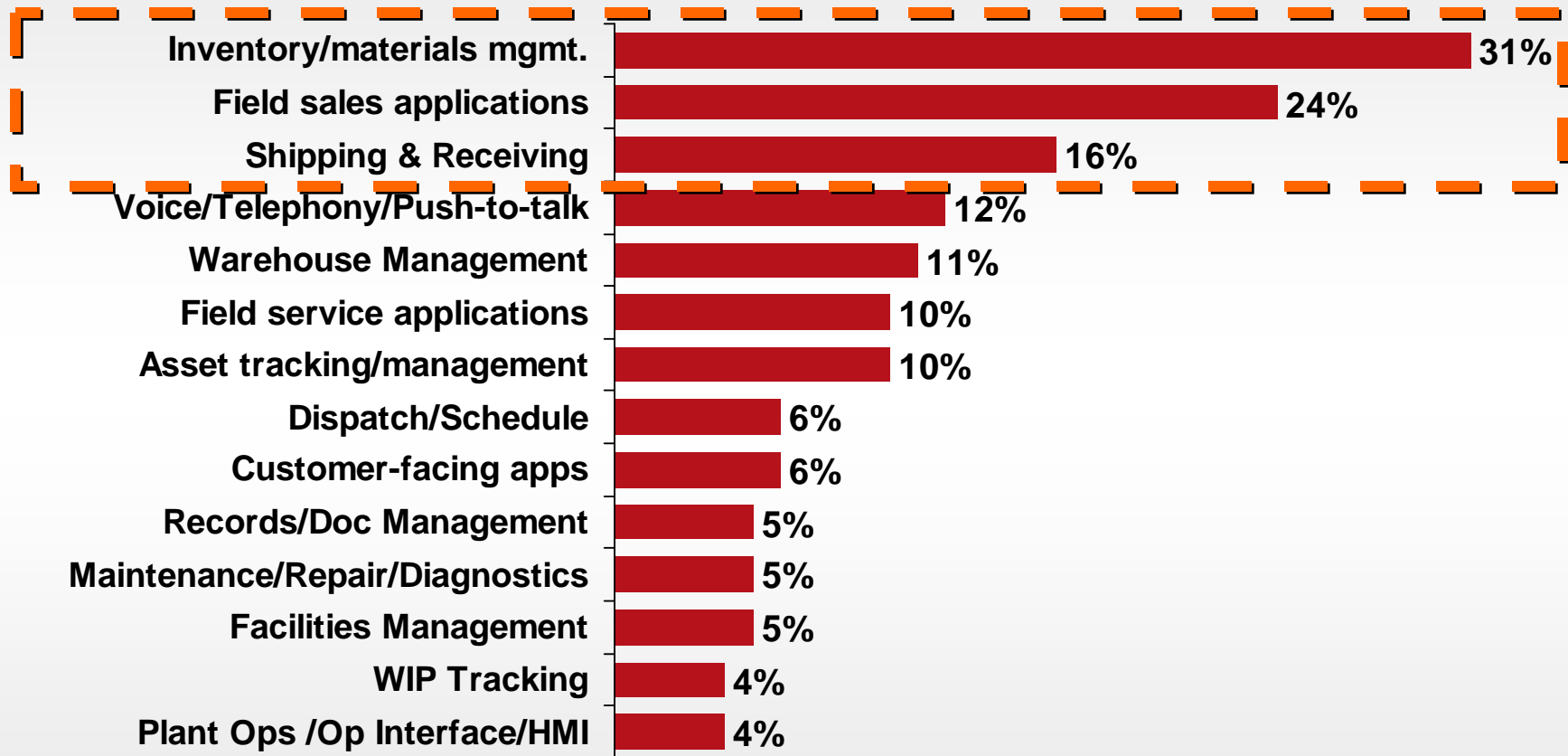


More than 50% of companies tracking ROI look for a return within 15 months of initial investments.



Mobile Application Investment Drivers

Q: “Please indicate up to three applications that are highly important drivers behind your company’s investment in mobile and wireless technologies (overall).”



Inventory management and sales force applications are equally important drivers for mobility in manufacturing enterprises.



Mobile Application Drivers, Key Benefits

Q: “Please indicate the most important benefit realized by your organization due to the utilization of (any) key mobile and wireless applications.”

Key Benefits from Mobility Average over all environments in mfg	All Respondents Manufacturing	Americas	Europe	APAC
Increased employee productivity/efficiency	44%	43%	50%	41%
Increased order fulfillment accuracy	23%	23%	23%	21%
Reduced labor costs via automated processes	22%	21%	23%	38%
Increased inventory, shipment or asset accuracy	20%	21%	17%	17%
Increased customer/partner satisfaction	19%	17%	18%	31%
Increased business revenues/sales results	16%	17%	13%	7%
Increased equipment availability	14%	15%	12%	7%
Reduced out-of-stock items	9%	10%	6%	7%

All regions see increased efficiency and productivity as the key benefit from mobile applications...APAC sees greater impact on labor costs.



Mobile Application Drivers, Key Benefits

Q: “Please indicate the most important benefit realized by your organization due to the utilization of these (specific) key mobile and wireless applications.”

	Inventory/ materials management	Field Sales applications	Shipping/ Receiving	Voice/ Telephony/ PPT	Warehouse Management	Field services
Increased employee productivity/efficiency	9%	28%	9%	46%	2%	24%
Increased order fulfillment accuracy	18%	10%	23%	4%	13%	10%
Reduced labor costs via automated processes	15%	8%	9%	12%	13%	17%
Increased inventory, shipment or asset accuracy	26%	4%	16%	2%	26%	5%
Increased customer/partner satisfaction	3%	18%	7%	8%	9%	26%
Increased business revenues/sales results	5%	22%	0%	14%	7%	7%
Increased equipment availability	3%	3%	4%	4%	4%	5%
Reduced out-of-stock items	10%	1%	7%	0%	4%	0%

Mobile Applications – In-building and field view



Q: “Please indicate up to three applications that are highly important drivers behind your company’s investment in mobile and wireless technologies (*within the specified environment*).”

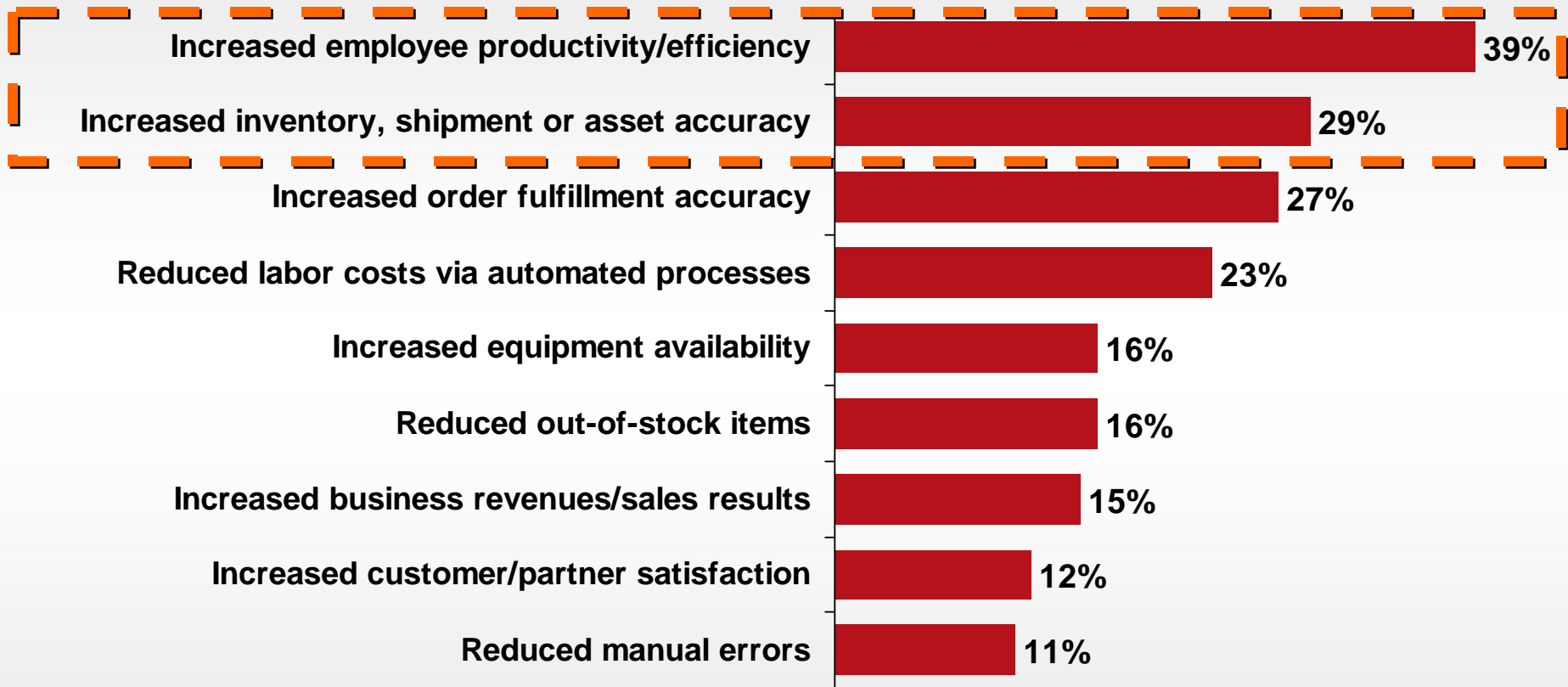
Manufacturing Shop Floor		Field Sales & Service		DC/Warehouse/T&L	
Inventory management	39%	Sales force applications	48%	Inventory management	41%
Materials Management	27%	Field service applications	17%	Shipping & Receiving	37%
Shipping & Receiving	20%	Voice/Telephony/ Push-to-talk	15%	Warehouse Management	27%
Warehouse Management	17%	Customer-facing apps	8%	Picking & Put-away	15%
WIP Tracking	16%	Dispatch/Schedule	8%	Asset tracking/ management	14%
Plant Operations / HMI	14%	Inventory management	7%	Dispatch/Schedule	11%
Promotions Management	13%	Shipping & Receiving	7%	Facilities Management	8%
QC & QA	11%	Time & Attendance	6%	Records/Document Management	8%
Asset tracking/ management	10%	Work Order/ Service Automation & Optimization	6%	Sales force applications	7%

The impact of mobility applications is felt throughout a multitude of environments in manufacturing companies.



Key Benefits, Shop-Floor Applications

Q: “Please indicate the most important benefit realized by your organization due to the utilization of (any) key mobile and wireless applications.”



Increased efficiency and productivity is the key benefit from mobile applications on the shop floor (39%), followed by increased asset accuracy (29%)



Key Benefits, Shop-Floor Applications

Q: “Please indicate the most important benefit realized by your organization due to the utilization of these key mobile and wireless applications.”

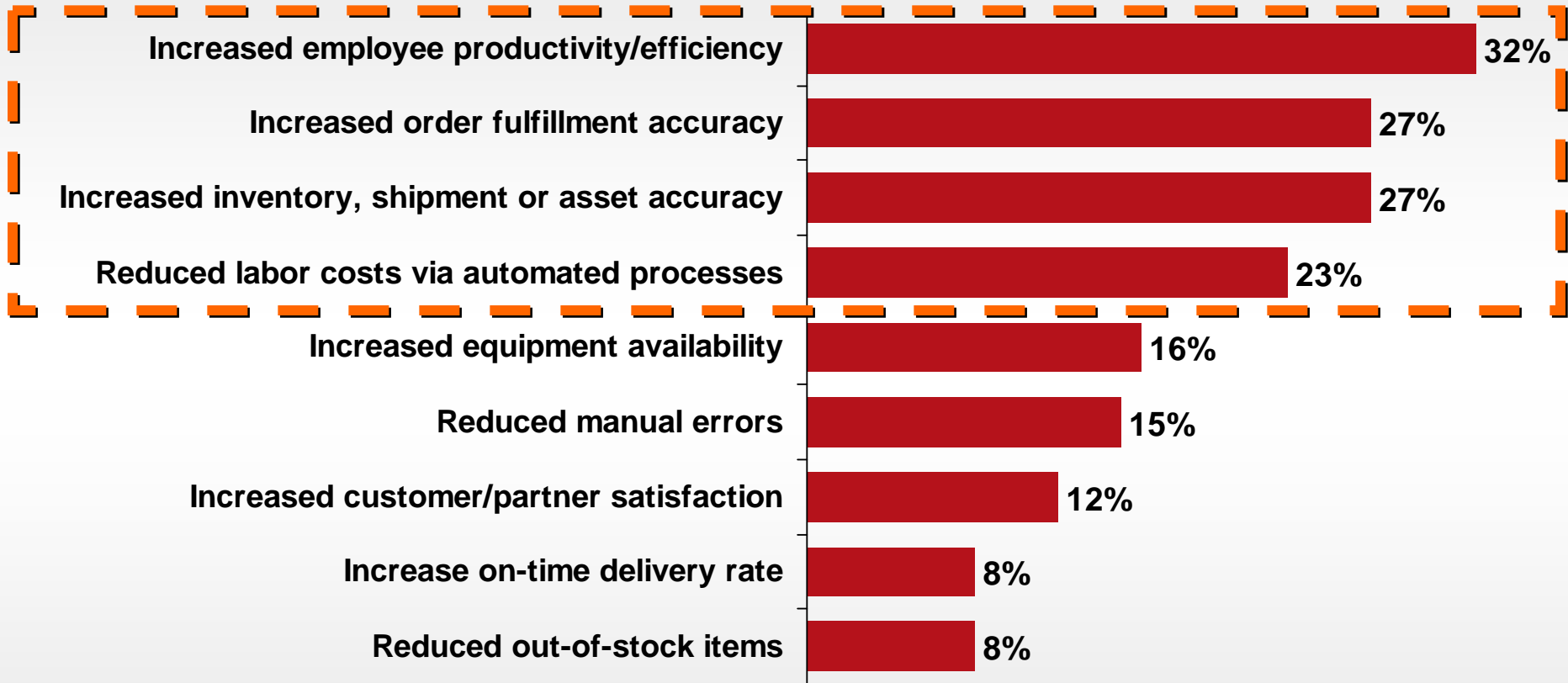
Manufacturing Shop Floor	Inventory management	Materials Management	Shipping & Receiving	Warehouse Management
Increased inventory, shipment or asset accuracy	27 %	30 %	18 %	32 %
Increased order fulfillment accuracy	20 %	0 %	18 %	16 %
Reduced labor costs via automated processes	14 %	13 %	9 %	11 %
Reduced out-of-stock items	11 %	13 %	5 %	11 %
Increased employee productivity/efficiency	7 %	23 %	5 %	0 %
Increased business revenues/sales results	9 %	7 %	0 %	11 %
Increased customer/partner satisfaction	0 %	0 %	14 %	11 %

Respondents citing the importance of inventory management (27%), materials management (30%) and warehouse management (32%) tie these applications to increased inventory/asset accuracy as a key benefit.



Key Benefits, W/H and DC Applications

Q: “Please indicate the most important benefit realized by your organization due to the utilization of (any) key mobile and wireless applications.”



Increased efficiency and productivity is the key benefit from mobile applications in the warehouse (32%), followed by increased asset and order fulfillment accuracy (27% each) and reduced labor costs (23%).



Key Benefits, W/H and DC Applications

Q: “Please indicate the most important benefit realized by your organization due to the utilization of these key mobile and wireless applications.”

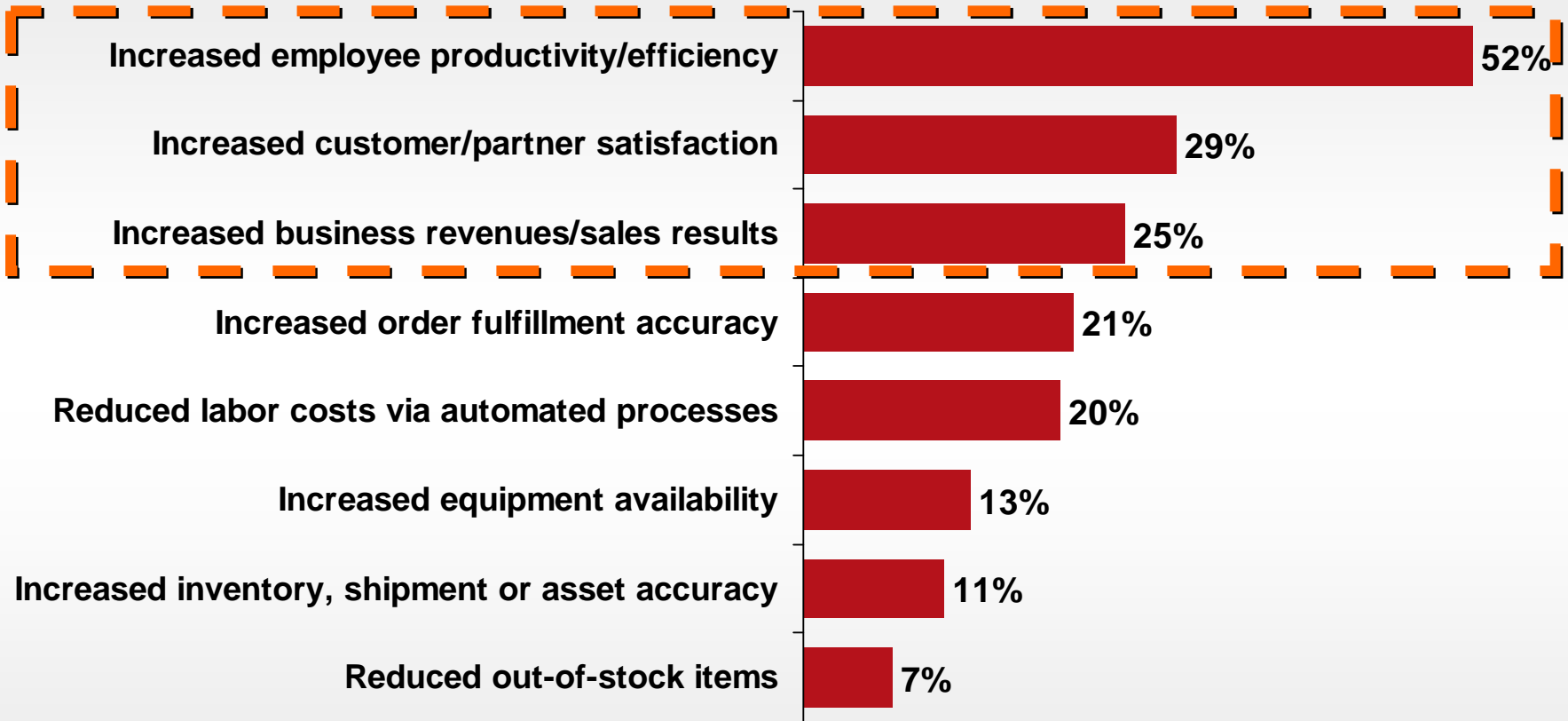
Warehouse/Transportation & Logistics	Inventory Management	Shipping & Receiving	Warehouse Management
Increased inventory, shipment or asset accuracy	37 %	11 %	33 %
Reduced labor costs via automated processes	17 %	11 %	17 %
Increased order fulfillment accuracy	13 %	22 %	6 %
Reduced manual errors	7 %	11 %	17 %
Increased employee productivity/efficiency	13 %	15 %	6 %
Increased customer/partner satisfaction	7 %	7 %	0 %
Reduced out-of-stock items	7 %	7 %	0 %
Increased equipment availability	0 %	0 %	11 %

Respondents cited inventory management and warehouse management solutions as drivers for greater inventory accuracy and reduced labor costs.



Key Benefits, Field Mobility Applications

Q: “Please indicate the most important benefit realized by your organization due to the utilization of (any) key mobile and wireless applications.”



Increased efficiency and productivity is the key benefit from mobile applications in the field (52%), followed by increased customer/partner satisfaction (29%)



Key Benefits, Field Mobility Applications

Q: “Please indicate the most important benefit realized by your organization due to the utilization of these key mobile and wireless applications.”

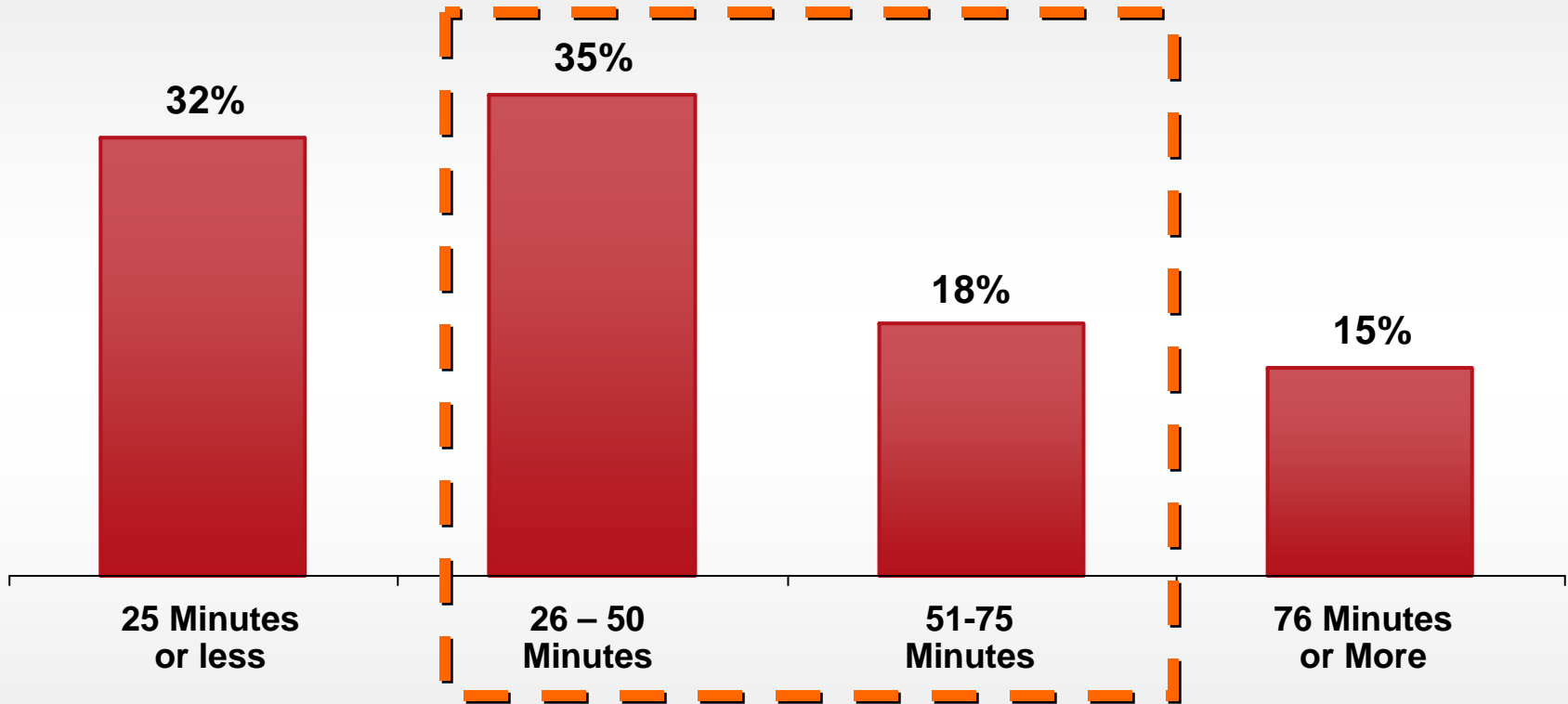
Field Sales/Service	Field Sales Applications	Field Service Applications
Increased employee productivity/efficiency	24 %	29 %
Increased customer/partner satisfaction	19 %	25 %
Increased business revenues/sales results	26 %	13 %
Increased order fulfillment accuracy	10 %	8 %
Reduced labor costs via automated processes	6 %	13 %
Increased inventory, shipment or asset accuracy	3 %	8 %
Increased equipment availability	3 %	4 %

Companies citing the importance of Sales Force (24%) or Field Service applications (29%), tie these applications to increased employee productivity.



Mfg. Mobility, Cited Productivity Gains

Q: “How much downtime (minutes per day) does the typical employee save or recover using a mobile application in a manufacturing environment?”



Manufacturing employees using key mobile applications are able to save or recover an average 42 minutes per day.

Thank You

