



Arming your Field Force with  
Wireless Enhancements - How  
wireless technologies help you  
to ensure better customer  
service at reduced costs.

ZSL Inc.  
85, Lincoln Highway,  
Edison, NJ 08820  
Phone: 732-549-9770  
Fax : 732-767-6644  
Email: [info@zslinc.com](mailto:info@zslinc.com)



## Introduction

In today's competitive environment, companies are under constant pressure to improve customer service while reducing costs; in field operations this drives a necessity for businesses to optimize their business process. With the passing of each competition-charged day, the corporate IT mandate grows clearer. Successful companies know that a well-trained, highly motivated and efficiently connected field force is critical to their continued growth and success.

Mobile field workers can be found in different range of industries including product service and support, management and architecture, transportation and parcel delivery and utilities. They are in general field service employees from various industries who collect data and accomplish tasks/jobs while moving from point to point within a city, district or region.



Communication can be a real challenge for organizations that have to keep contact with employees in the field. Traditional methods of recording work done or reporting faults rely on batch transfers or paperwork completed at the end of a shift, so are often slow, inefficient and prone to error. Field force workers are the lifeblood of many businesses; they can deliver enhanced services that go far beyond data collection and repair through new mobilized devices and applications. These enhanced service capabilities better serve clients' needs and provide additional revenue opportunities for companies.

This White Paper will discuss how the benefits of mobile solutions, are empowering Enterprises and their employees to improve revenue, engage in industry best practices and offer the best practices possible with its new features, functions and capabilities.

## Field Force Workers—A Largely Untouched Market

The market potential is tremendous for mobilized computing solutions. According to research from IDC, there are 99 million field and 145 million on-location workers in the world today. Currently, only a very small percentage of companies are using mobilized solutions to conduct business. There is a vast area of opportunity for companies and ISVs to transform the **productivity** and **performance** of these workers. **Figure 1** depicts the size of the potential market for both field and on-location work forces.

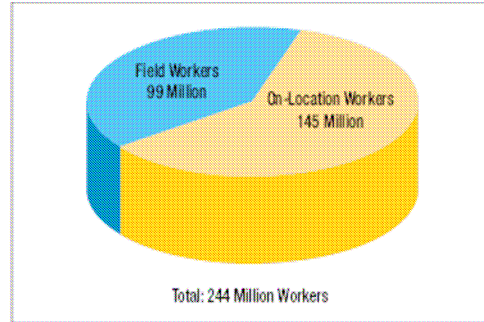
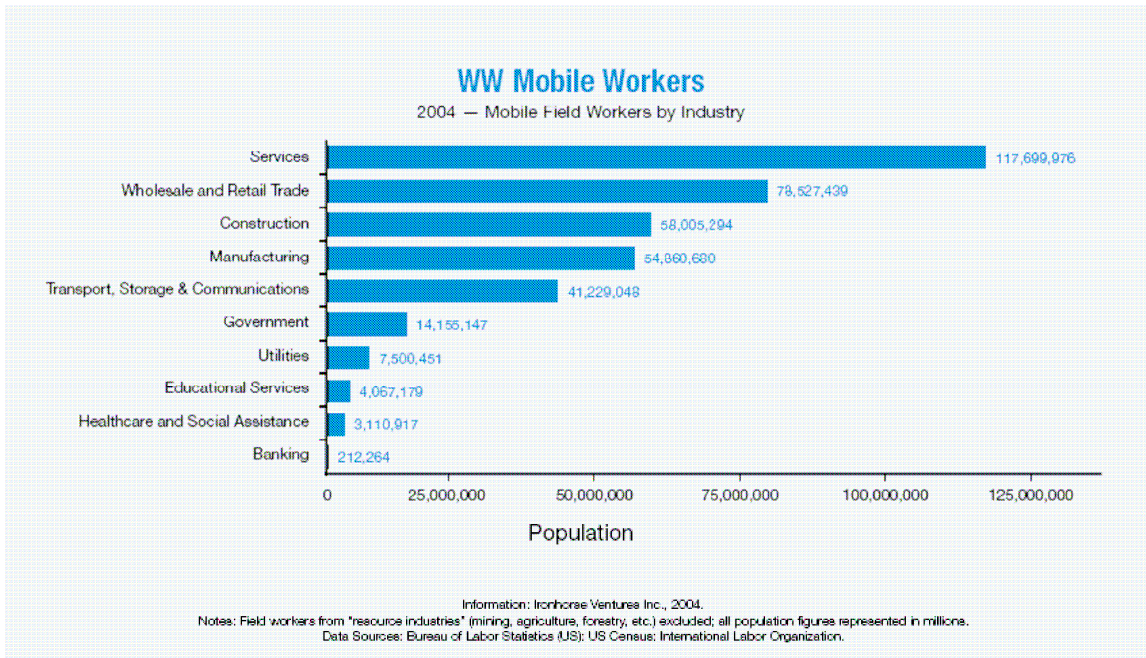


Figure 1: The Mobilized Opportunity  
Source: IDC, May 2004



## Field Force Automation – Technology Enhancements and Innovations

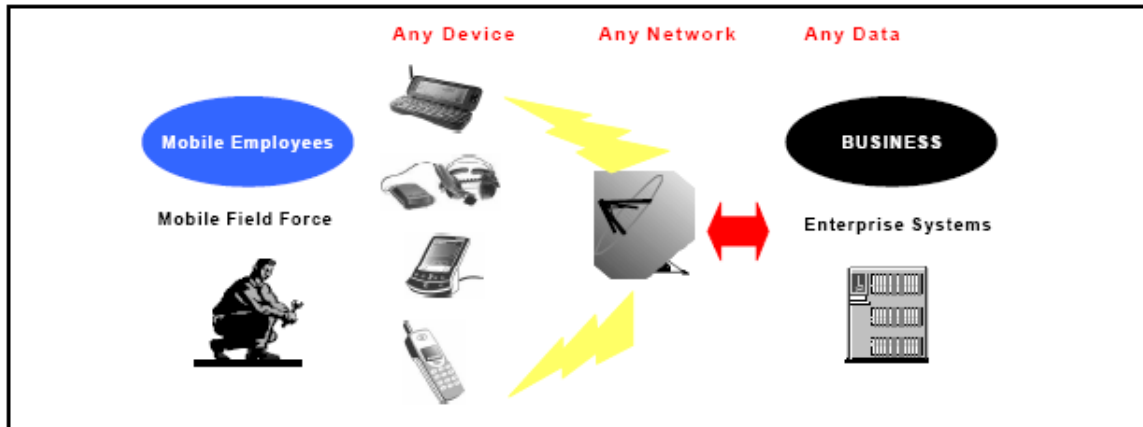
New and innovative technologies can significantly improve field force efficiency. These approaches can:

- Reduce the overload of data.
- Provide actionable information where and when needed.
- Enable field force to receive and complete automated tasks while on the road.

Technology Innovations	Benefits
<p><b>Access</b> – new technology wireless application gateways – infrastructure that makes it easier to extend enterprise apps to the wireless user – includes transcoding to adapt web content to suit the device, sync engine, authentication, security, optimization...</p>	<p><i>Easier integration to existing host systems, improving the ROI in already deployed systems</i></p>
<p><b>Location Based Services</b> – improved service levels through proximity searching, routing instructions – real map content and travel time data.</p>	<p><i>Location of field teams is always known enabling intelligent dispatch</i></p>
<p><b>Content Aggregation</b> with portals technology – gives the wireless user a personalized dynamic workbench.</p>	<p><i>Personalization and fast, efficient access to corporate information</i></p>
<p><b>Wide Area Networks</b> – increased speed, coverage, reliability, always on and available (GPRS, 3G).</p>	<p><i>Information always on and available at high speed</i></p>
<p><b>Devices</b> – commercial of the shelf, robust, easily available, lower cost, used for multiple apps.</p>	<p><i>Reduced equipment &amp; maintenance costs</i></p>
<p><b>Instant messaging</b> – useful to find information and ask question online regardless of location.</p>	<p><i>Mobile Personnel are easily contactable and in constant communications</i></p>
<p><b>m-learning</b> – interactive manuals, web lectures on key subjects on a handheld device.</p>	<p><i>Interactive learning real time and access to corporate knowledge systems</i></p>

## Mobile field workers – Early adopters of wireless technology

With field force automation solution, mobile field workers would be more effective in management as well as operation by connecting to their back-end systems via a wireless device.



Mobile field workers always have a need for receiving and transmitting information. This could not be handled by normal phone services. Making trips back to the service stations to get the needed information costs time and delays work process.

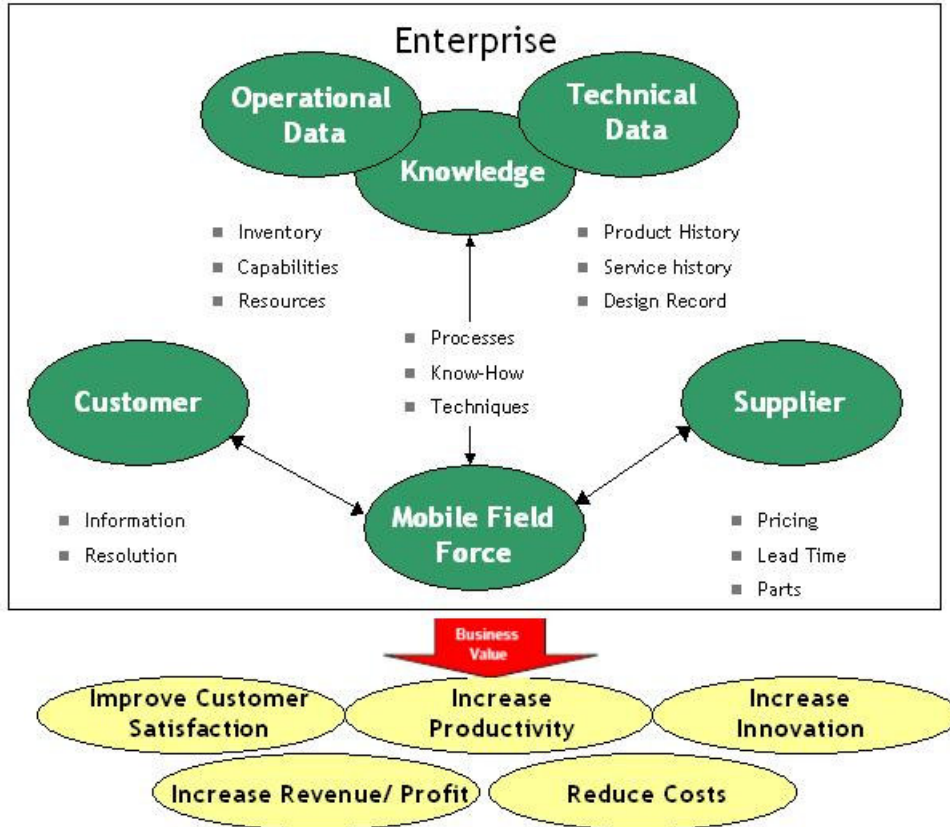
Field force automation provides complete access to all the activities conducted by a mobile field force worker.

Key Functions include

- Fleet management
- Inventory and asset management
- Warehouse automation
- Asset tracking
- Quality Control (tracking and counting articles)
- Packaging
- Security and access control
- Hazardous material management
- Advertising and promotion
- Delivery
- Smart-card-based payment systems

## Wireless Field Force – A new paradigm

A wireless mobile field force can make use of real time synergies between the enterprise, customers and suppliers leading to significant business benefits such as cost reductions and improved customer satisfaction.



Wireless field force automation is transforming the way organizations conduct business, enabling them to be more profitable, competitive and faster to market. Wireless FFA closes the information gap between the service organization and the field force representative by augmenting every component of the field service cycle, from initiation to closure of a service request.



## Examples – Mobile Field Force



- Field service technicians go to a customer site to repair a piece of capital equipment or conduct regular scheduled maintenance on an asset or machine.
- Completing a detailing visit in a retail setting and sending a detailed report back to the database.
- Medical Representatives distributing a sample of a drug to a physician.
- Insurance claims adjusters process claims electronically at the customer location.
- Parcel or expedited delivery service drivers receive customer location pick-up instructions throughout the course of the day.
- Cable or appliance installers receive customer account instructions while on the road, and can access technical data as needed to support an installation process.

### *Top Field Force Deployment Challenges*

- How do I get this new device to work?
- How can I rapidly deploy 20,000 devices?
- How do I centrally configure my networks?
- Is my connection secure?
- One of our devices is reported lost; can I disable it?
- What are the connectivity holes in my network?
- Why is my network so slow?
- How do I apply OS patches / application updates?
- Why is my device acting funny?
- Why aren't my batteries lasting long enough?
- How can I make mobile applications work better?



**Source:** Managing the Mobile Edge: *The Unique Challenges and Requirements for Successful Management of Mobility Solutions*

## Top Challenges to Mobile Field Force Success

To remain competitive and increase productivity, no matter what type of business they are running, organizations ensure that they and their employees do not exist in isolated islands. To keep pace with its competitors, organizations are investing in their technical infrastructure to offer mobile field professionals more ubiquitous, secure and rapid access to corporate information. However, this evolution is not without its challenges.

**High Cost of Mobile Solutions** – Despite improved price-to-performance models of today’s mobile field service solutions, the day-to-day time and costs associated with managing mobile solutions, from mobile devices to wireless infrastructure, is significant. According to a recent Gartner study, capital costs are only 25% of the total cost of ownership (TCO) of a mobile device. The remaining 75% is spent on deploying, managing and supporting these devices, as well as configuring the wireless network. This is particularly daunting for mid-sized firms.



### **Technology integration with back-office system –**

The top challenge for mid-sized companies is technology integration, which reflects a very different mindset from larger companies. Larger firms understand that no measure of technology can sustain long-term performance gains without sound business processes that steadily improve and evolve over time.

**Insufficient IT structure and personnel to support mobile deployment** – Mobile field force deployments includes integration with back-office systems, configuring software applications to run on mobile devices, and even customizing interfaces for specific business processes and mobile workers usability.





**Information Security Risks** – Security concerns prove to be the key challenge for field force deployments. A *strong encryption system* is necessary to protect proprietary enterprise and customer data. All users accessing back-end systems should authenticate themselves before accessing corporate data.

Mid-Sized companies continue to struggle due to these and other prevalent challenges over field force solutions. Field force workers in front of customers need instant support, not confusion over the source of the problem – the mobile device or the wireless infrastructure. Mid-Sized organizations often sustain expensive latencies in their field force operations from customer dissatisfaction, overcharges, glitch in performance, revenue delays and missed cross-sell and up-sell opportunities.

### Why Field Force Deployment?

Why would companies consider expanding its field force deployments with all these difficult challenges? Mobility to field force offers very significant return on investment (ROI) to companies that do it well.



- Field workers can read meters, report on their location and status and receive service information and updated instructions while in the field.
- Warehouse workers with scanner-equipped devices eliminate the double entry keying of previously paper-oriented systems, allowing for greater accuracy and accelerated billing.
- Route drivers carrying handhelds show an increase in sales and an ability to make more stops in a day via efficient routing.

All of these instances of mobile-equipped field force workers provide ROI benefits to organizations. By taking the complexity and technological hassles out of its field workers across all lines of business will exhibit major bottom line advantages.





## Future Technology Accelerators

### Tablet PC



Tablet PCs combine the touch screen and handwriting features of the PDA with the computing power of a notebook computer in a compact and light weight design. End-user experiences the same look and feel in the office as in the field. Other advances in battery life and wireless capabilities are also eagerly anticipated.

### Voice

Emerging technologies that allow natural text to speech dictation will allow easier data capture by both sales professionals and other members of the sales channel. Such services can run on mobile devices or via telephone services to a central server. Such solutions will tie directly into sales and marketing applications and can help increase the amount of useful data that can be captured in the field.



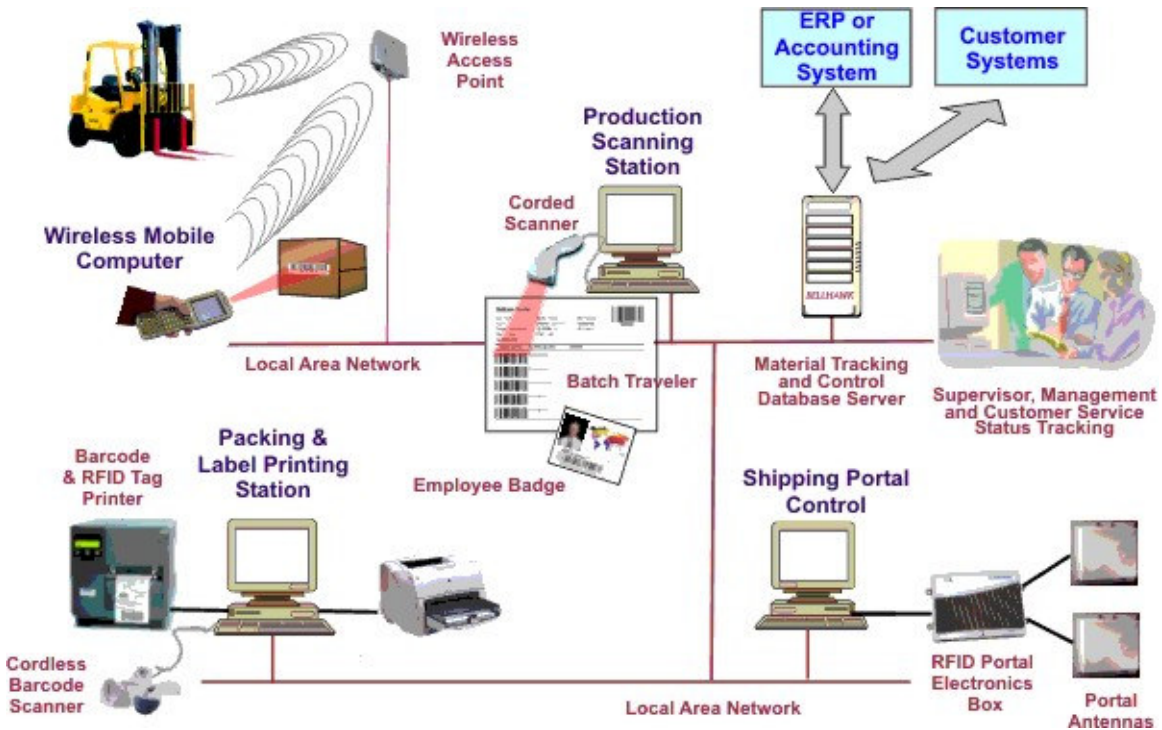
### Extending into Field Analytics



As wireless networks improve, our ability to access information throughout the enterprise increases. Through integration of analytics into a mobile environment, we bring the sales professional in closer contact with the home office and help them to better highlight customer needs. We will be able to better measure and predict behavior and the interactions with the customer and, in turn, support changes in the business landscape, such as product launches and formulary changes.

## RFID [Spell out] – Radio Frequency Identification

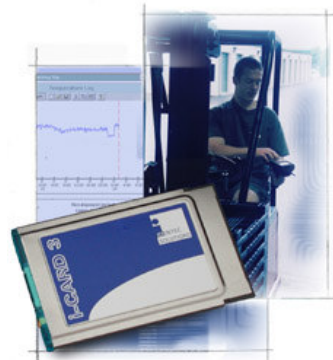
An RFID system comprises three main elements: electronic tags, tag readers and software to store collected data.



*Sample RFID Architecture*

The tags, which consist of a silicon chip and an antenna, provide each individual object to which they are attached with a unique identifier. When scanned, the tag transmits a wireless signal to the reader, which in turn sends the data to a database. The reader can also write information to the tag if required.

RFID technology is becoming prevalent in logistics where the movement of mobile tags, for example on pallets of consumer goods, is read by static readers, say, in goods in/out bays of a warehouse. However, for Sales Force Applications, this concept is reversed: the tags are static and the readers are mobile, i.e. carried by the sales professional. Tags can be attached, say, to a fixed location for proof of attendance, or to a specific item of machinery to be checked.



## Impact of RFID technology in Business Process



The adoption of RFID across industries is fast moving from trials towards plans for large-scale deployment. Tag reader when combined with a communication device, such as mobile phones, RFID technology can give field service companies a much greater degree of control over what happens in the field.

For example, warehouse engineer who has to check the overall items is now able to inspect each item with a phone or reader, and that information is immediately transmitted to the back-office system. The user, if required, using client software on the phone can enter additional relevant information. This indicates



- There is proof that the job entitled has been completed.
- Real-time information is displayed in the back-office systems.
- The potential for error is reduced because data is entered only once and the majority of data is extracted automatically by the reader from the tag or entered using a menu-driven interface.
- A faulty item is identified instantly and so can be dealt with more quickly, increasing customer service.



Phone/Reader has to be very easy to use, eliminating the potential for error and minimizing training. It also has to be robust so as to withstand the rigours of field work.

Readers can also be used to read an RFID personnel badge, so a field employee can log in each day, linking a reader to a specific person. The tasks the employee carries out can then be time-stamped, and an alert raised if a task isn't carried out at an appropriate time or in the right sequence.





## Sample Case Study

### Challenge

To thrive in market, **Seattle Insurance Corporation (SIC)** needed to improve the efficiency of its field force to meet the needs of current and potential customers. A key goal for all service-focused businesses is to continually improve customer service, while facing sales and cost pressures that generally translate to fewer resources. **SIC** realized it needed to transform its field service and sales processes to respond quickly – whether it was a service call or a new business opportunity.

### Solution

**SIC** engaged ZSL to deploy a workforce management solution, from ZSL's Partner Ameri Concepts Inc. The Mobile Field Force Automation integrated with Eye Module enables the Insurance Adjustors to capture and store the damaged vehicles' part with the remarks. It also enables dynamic schedule optimization by allowing the Adjustors to view their daily schedule and update their status from their Handspring Visor Prism.



**SIC** uses ZSL's middleware technology to capture the photos of the damaged vehicles and other information like the vehicle information, claim details, estimate and repair details by the Insurance Adjustors on their Palm OS based Handspring Visor Prism with Eye Module and then synchronize those data and the images to the Desktop application. The Desktop application in turn sends the data to the Oracle8i database, was mounted on the Windows 2000 environment.

### Results

- Improved productivity for field workers, resulting in a more than 30% increase in service call completion rates.
- Improved responsiveness to customer service needs, resulting in higher satisfaction and customer retention.
- Improved ability to target existing and new customers with customized service bundles.
- Shorter sales cycle due to the availability of mobile sales tools.

## About ZSL's Mobile Field Force Automation

Even though there are a lot of challenges for mobile field force automation, the good news is that ZSL is making mobility easier and safer, as well as more manageable, reliable and affordable for small and medium businesses than ever before.

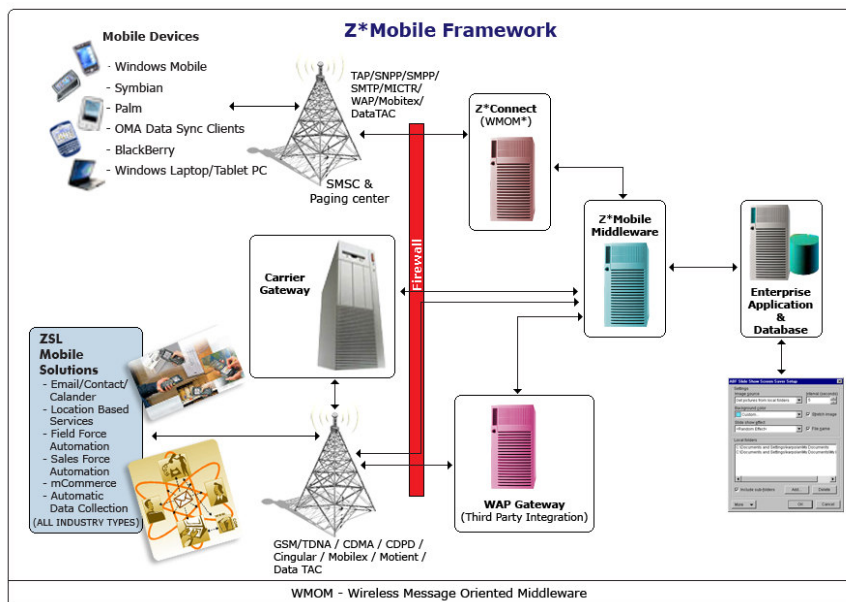
### Key features include

- Anywhere, anytime, any device Access to the business data.
- Task list or sales appointments browsing while on the go.
- Real Time sales and information update.
- Remote Status update.
- Pushing critical information over SMS or WAP Push.
- Offline or Disconnected area client to hold the data for later synchronization.
- Secured access to the corporate email, calendar and contacts.

### Supported Devices:

- Palm OS based Handspring or Palm Devices
- Win CE/Pocket PC OS based Handheld
- WAP and J2ME Phones
- RIM's Blackberry Smart Pagers

ZSL realizes that field workers are mobile by definition. ZSL uses technology to make field workers more focused and successful. ZSL's solution is customized in such a way that mobile workers get the direction they need and managers get the information they need. The bottom line is increased profits.



## Conclusion

### FIELD FORCE AUTOMATION

is the next evolution of optimizing revenue in business. Organizations have an enormous opportunity to transform how business, employees and customer interact.

Wireless technology has emerged as a potent enabler of industry convergence. Mobile field workers are the early adopters of wireless technology. Mobile workers need to send and receive the information again and again to be more efficient. Trips back to the service depots to get the required information wastes time and delay the work process. Wireless FFA closes the information gap between the service organization and the field force representative by augmenting every component of the field service cycle, from initiation to closure of a service request.

With Synchronization feature, mobile workers are equipped with real time and updated information, which in turn helps them to provide customers with up-to-date prices and inventory available. Remote order entry capabilities reduce the burden of entering the data again in the database residing at the server and help them to close the sale quickly and efficiently.

RFID-based systems provide a simple and effective way of ensuring that field data is collected and transmitted in real time, with guaranteed accuracy. The employees need not phone back to the office to report where they are with automatic time-tracking and location-tracking feature.

Companies can achieve higher levels of benefit to provide better service at a lower cost and increase their own profitability by adopting an integrated strategy. In a rapidly moving world, modern business know that their customers expect them to be more flexible, more responsive and more efficient than ever before. Mobile equipped field force workers provide ROI benefits to organizations

© 2006 **ZSL Inc.**

All rights reserved.

September 2006.

*All of the company names and/or brand names and/or product names referred to in this document, in particular the name “ZSL Inc” and its logo device are either registered trademarks or trademarks pending registration in accordance with relevant national laws. Any redistribution or reproduction herein is strictly prohibited. All rights reserved. Specifications subject to change without notice.*