



The Power of Enterprise Mobility

A major automotive manufacturer identified a number of areas in the business where mobile applications could eliminate manual processes and provide a major productivity increase. When the company analyzed the benefits of implementing individual applications versus a common platform to integrate the mobile applications, the results were startling:

- \$98 million per year through the benefits gained from the real-time integration and availability of data — a 40%+ increase over the savings from stand-alone applications
- 34% more rapid return on investment (ROI)

The quantifiable benefits justified the enterprise-wide implementation of a mobility platform that supported applications in four key areas: on the shop floor, in materials management, quality, and enterprise asset management.

The schematics on the following pages identify:

- The issues the company wanted to resolve
- The solutions that addressed those issues
- The benefits of the mobility applications from a stand-alone perspective (those benefits that would be realized whether the applications were integrated or implemented as silos)
- The incremental benefits realized through real-time instant availability of information, resulting from the integration of applications via a common enterprise mobility platform


Additional details on the calculations can be found in the Appendix, which follows this section.



Room for Improvement

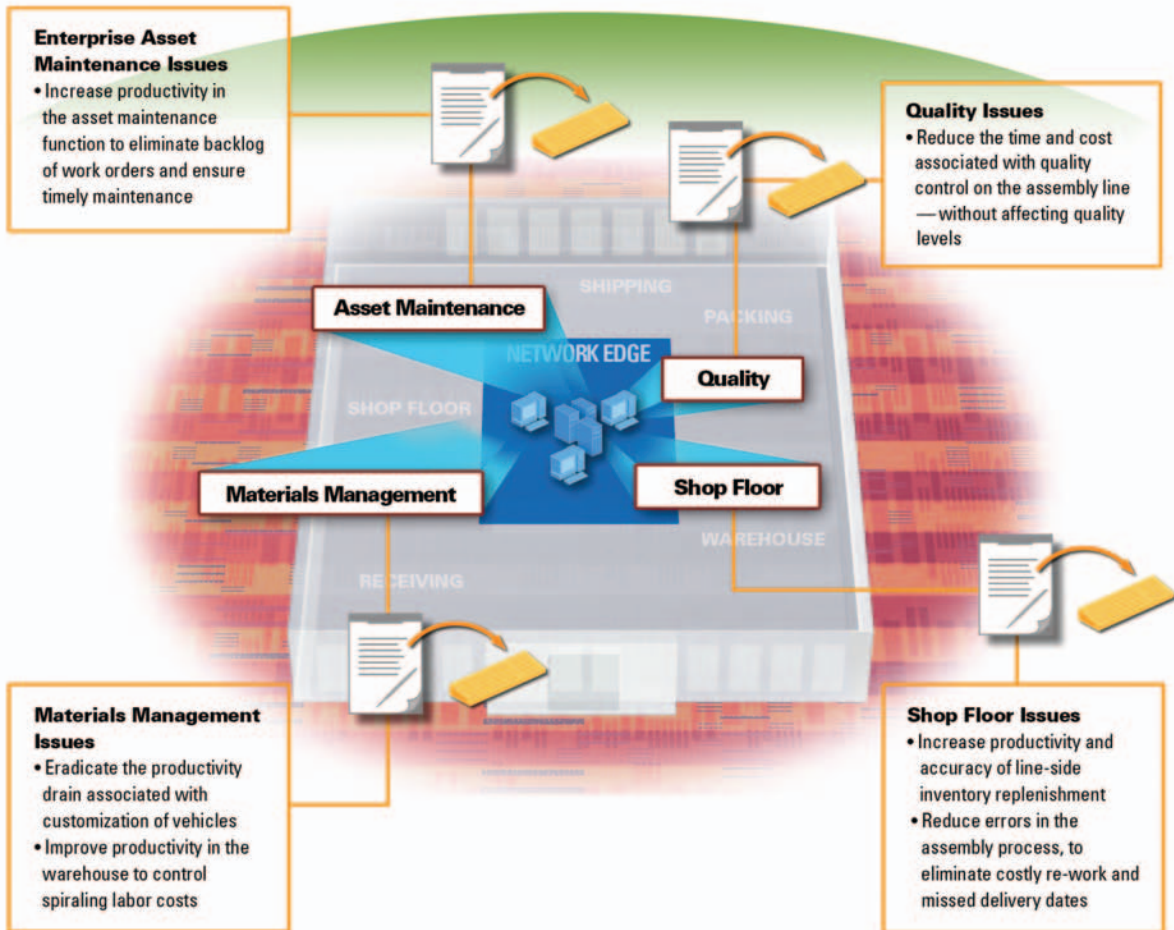
Four areas of the business were identified that were laden with double manual processes, where information was first collected via paper and pen, and then entered at a later time into the computer. These time consuming processes not only reduced worker productivity, but also produced a high level of errors — and the resulting re-work impacted overall profitability.

The following illustration highlights the specific issues that this manufacturer sought to resolve.



The Manual Manufacturer

The Business Issues





The Enterprise Mobility Applications — and How They Address the Business Issues

Six enterprise mobility applications were identified and implemented to address the enterprise-wide objectives. With enterprise mobility, the network edge is effectively extended beyond the wired LAN to extend computing power right to the point of work — on the shop floor, on the assembly line and in the warehouse — via a wireless LAN, RFID technology and rugged mobile computing devices suitable for the environment.

The following illustration on the facing page identifies the six applications and how they addressed the core business issues.

The Mobile Manufacturer

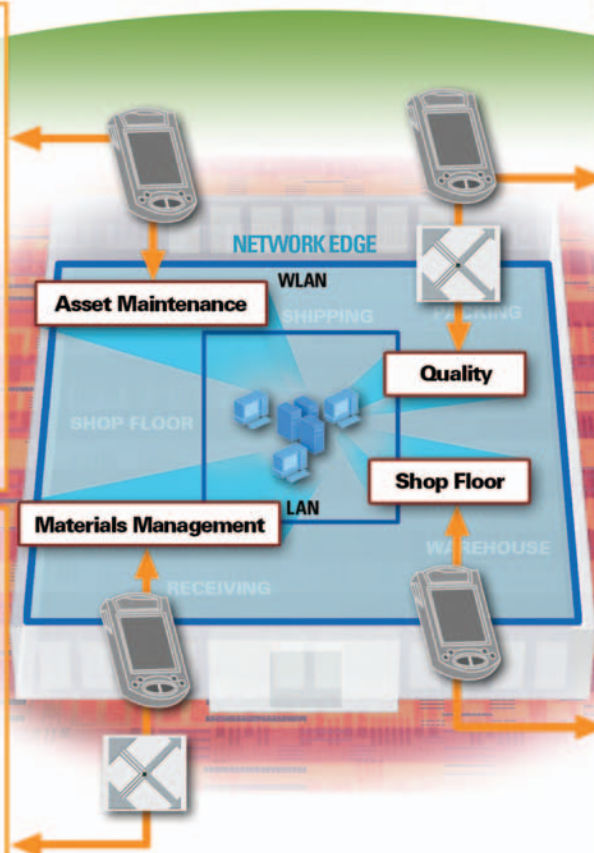
The Solutions

Enterprise Asset Maintenance Solutions

- Mobile Asset Maintenance**
- Paper-based forms are replaced with mobile computers
 - Time spent collecting data on paper, and entering that data into the computer is eliminated
 - Instant access to information on the mobile computer, such as maintenance records and manuals, eliminates time previously spent physically locating files and other information

Materials Management Solutions

- Raw Materials Sequencing**
- RFID readers automatically scan shipments as they are received, instantly verifying that the products are correct and are in the order in which vehicles are slated to be built
 - Productivity is increased on the assembly line through the automation of many procedures associated with the customization of vehicles on a single assembly line
- Warehouse Mobility**
- Paper-based processes are automated via a mobile computer
 - The process automation greatly increases productivity and reduces costs across functions—in receiving, put-away, picking and shipping



Quality Solutions

- Mobile Forms**
- Quality engineers are equipped with mobile computers
 - RFID tags on vehicles identify the appropriate build and send the correct quality electronic forms to the engineer's mobile computer
 - Quality engineers then select checkboxes as appropriate
 - The collection of data on paper and the need to enter that data into a computer are eliminated

Shop Floor Solutions

- Error Proofing**
- Assembly line workers equipped with mobile computer scan parts as they are used, ensuring that the right part is used at the right time, virtually eliminating assembly errors and costly re-work
- e-KanBan**
- Workers signal right from the assembly line for more materials, eliminating the need to stop production to call for materials
 - Warehouse workers receive the order complete with exact location of inventory; parts are scanned when picked to ensure the right parts are picked, increasing the speed and accuracy of line-side replenishment




The Benefits of Mobility

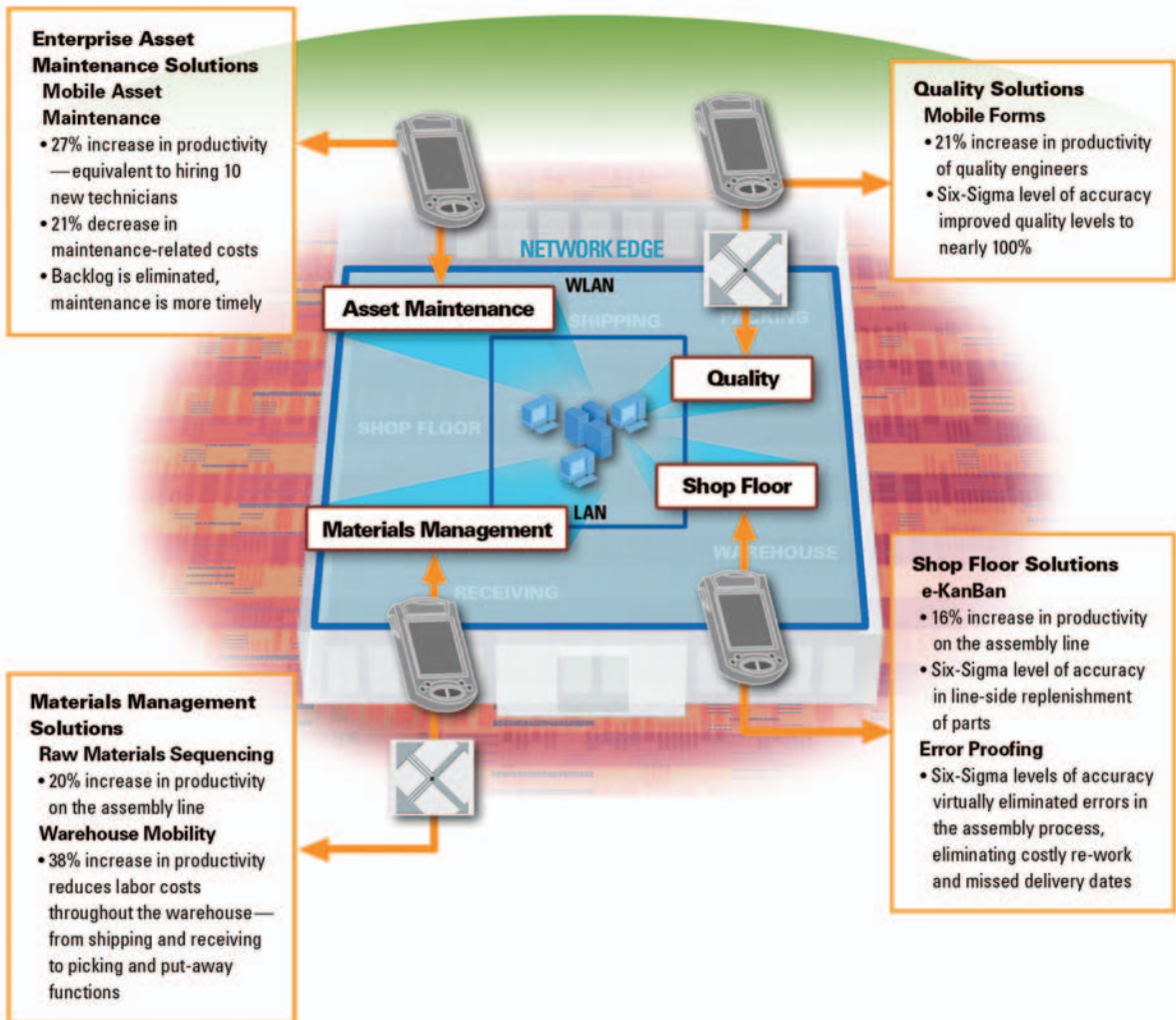
Each individual mobility application delivers a number of benefits, including:

- a dramatic increase in personnel productivity, driving the cost of labor down
- a dramatic increase in accuracy of data
- a dramatic decrease in process errors

The following illustration on the facing page identifies the specific benefits achieved in the various areas of the business.



Stand-Alone Applications | The Benefits



Enterprise Asset Maintenance Solutions
Mobile Asset Maintenance

- 27% increase in productivity — equivalent to hiring 10 new technicians
- 21% decrease in maintenance-related costs
- Backlog is eliminated, maintenance is more timely

Quality Solutions
Mobile Forms

- 21% increase in productivity of quality engineers
- Six-Sigma level of accuracy improved quality levels to nearly 100%

Materials Management Solutions
Raw Materials Sequencing

- 20% increase in productivity on the assembly line
- Warehouse Mobility**
- 38% increase in productivity reduces labor costs throughout the warehouse — from shipping and receiving to picking and put-away functions

Shop Floor Solutions
e-KanBan

- 16% increase in productivity on the assembly line
 - Six-Sigma level of accuracy in line-side replenishment of parts
- Error Proofing**
- Six-Sigma levels of accuracy virtually eliminated errors in the assembly process, eliminating costly re-work and missed delivery dates



Enterprise Mobility vs Stand-Alone Applications: Increased Profitability, Annual Savings — and a Faster Return on Investment

With a systems approach to implementing mobility — the integration of the mobile applications on an enterprise-wide common platform — the company realized:

- \$334 million in annual savings versus \$236 million with stand-alone applications — an incremental increase of over 40%.
- A 24% faster return on investment versus stand-alone applications

The following illustration on the facing page identifies the incremental benefits this manufacturer achieved through the power of enterprise mobility and real-time information.

Integrated Platform

The Benefits of Enterprise Mobility

