

www.qad.com

MMOG/LE

Materials Management Operations Guideline/Logistics Evaluation



Our Passion. Your Advantage.

Table of Contents

Table of Contents.....	2
Materials Management Operations Guidelines/Logistics Evaluation	3
QAD's Role in MMOG/LE.....	4
MMOG/LE Implementation Guidelines	5
MMOG/LE Automotive Process Maps	6
QAD Enterprise Applications.....	9
QAD Business Intelligence.....	13
QAD Consignment Inventory.....	14
QAD EDI eCommerce.....	15
QAD Enterprise Asset Management.....	16
QAD Lean Manufacturing.....	17
QAD Logistics Accounting.....	18
Container Management and QAD PRO/PLUS Container Line Charges	19
QAD Planner	20
QAD PRO/PLUS WIP Lot Trace.....	21
QAD Production Scheduler	22
QAD Service & Support Management	23
QAD Supply Visualization	24
QAD Transportation Management.....	25
QAD Warehousing.....	26
Shipping Performance	27
Supplier Performance	28
QAD Process Maps	29
QAD Operational Metrics	30
QAD Browsers.....	31

Materials Management Operations Guidelines/Logistics Evaluation

Is there room for improvement in your company's inventory or delivery performance? Are you looking for the next generation of performance improvement tools that will take your operations to a higher level?

MMOG/LE Drives Bottom-Line Results

Thousands of automotive suppliers around the world have used the MMOG/LE assessment to improve materials management operations and logistics, some reducing inventory as much as fifty percent. Better delivery rating scores and savings on premium freight, obsolescence, and administration are just a few of the other gains reported.

MMOG/LE best practices guide manufacturers in assessing, improving and benchmarking materials management and logistics processes. During the assessment process, manufacturers will uncover critical areas where automation and systems can significantly increase plant efficiency and streamline processes. MMOG/LE ensures information flow follows material flow.

Many automotive suppliers are required or mandated to complete the MMOG/LE assessment by their customer. But many other manufacturers are taking advantage of the MMOG/LE simply because it is an extremely effective tool for identifying weaknesses in plant operations, establishing plans to improve, and as a global core model for operational excellence across the enterprise.

Competitive Advantage in the Global Marketplace

Emerging market suppliers in regions such as Brazil, Central and Eastern Europe, China and India are using the MMOG/LE as a tool to develop their facilities into world-class operations that can serve OEMs globally. A trend for many mature market multinational suppliers is to use the MMOG/LE as a tool to establish the corporate guideline or standard for which plant materials management and logistics functions will operate globally. In this case, MMOG/LE becomes the "corporate playbook" for measuring and maximizing plant operational performance.

Not Just for Automotive Suppliers

While the MMOG/LE was developed by the automotive industry, AIAG and Odette report growing interest in and use of MMOG/LE in hospitals, construction, aerospace, chemistry, electronics, industrial and retail. QAD believes it can be used as a benchmarking and development tool for manufacturers across many industries.

QAD's Role in MMOG/LE

With 20 years of serving the global automotive industry with manufacturing ERP solutions, QAD holds the qualifications needed to help suppliers anywhere in the world meet MMOG/LE requirements.

Enterprise applications play a critical role in a manufacturer's ability to meet assessment criteria such as EDI, Bar Coding and the integration of customer and sub-supplier data within the system. As an ERP provider, QAD has a distinct responsibility to ensure that our customers meet MMOG/LE standards.

MMOG/LE content is reviewed, updated and published by the global AIAG/Odette MMOG/LE work group. QAD is a participating member of this team of automotive OEMs, suppliers and industry experts. QAD is also the designated MMOG/LE training provider on behalf of AIAG/Odette in Asia/Pacific, Russia, Poland, Slovenia and the Czech Republic.

QAD has developed unique tools that help suppliers implement the required business systems and prepare for internal reviews and customer MMOG/LE audits. Participation in the global AIAG/Odette MMOG/LE work group, expertise in the business systems necessary to support and automate the information and material flow; and history of helping suppliers successfully pass customer MMOG/LE audits ensure that these products and services get results for our customers.

With offices in 90 countries and local language support globally, QAD is positioned to provide effective MMOG/LE support to customers around the world. Whether in mature or emerging markets, suppliers in Brazil, Central and Eastern Europe, Russia, India and China have leveraged MMOG/LE products and services to achieve preferred supplier status and improve performance.

Our MMOG/LE Answer Sheet provides details on exactly how the QAD application suite can help a supplier meet each of the 206 assessment points.

To find out more about our unique tools to support the MMOG/LE process, email: mmogle@qad.com.

MMOG/LE Implementation Guidelines

Whether implementing MMOG/LE, as a customer requirement, best-practice standard or bench-marking tool, for your facilities, you will want to follow these recommended steps:

1. Attend AIAG/Odette MMOG/LE standard training
2. Complete the assessment
3. Implement your Action Plan
4. Certify your assessment score

Attend Training

AIAG and Odette provide MMOG/LE training globally. The course prepares you to effectively implement a world-class materials plan and logistics management system at your company. Students learn to complete an MMOG/LE supplier assessment, identify gaps and determine appropriate action items to fill the gaps for continuous improvement.

The [assessment](#) can be obtained from AIAG at www.aiag.org or the Odette web site at www.odette.org.

Complete the Assessment

The next step is to form a team to complete the MMOG/LE assessment. Materials planning and logistics, purchasing, production managers, administrative personnel, engineering, quality, human resources, and information technology department should all be interviewed for the assessment.

A study from a major OEM that requires the MMOG/LE found that 60 per cent of suppliers over-estimate their capabilities when they complete the assessment. Some companies may need outside assistance to review their capabilities or to implement MMOG/LE as a standard process across all plants. To ensure accurate, constructive MMOG/LE assessments, QAD offers suppliers our MMOG/LE Review.

QAD's MMOG/LE Review includes an in-depth evaluation of plant processes, documentation of responses to assessment points, interviews within functional areas to confirm and validate the score, a gap analysis to identify areas for improvement, an action plan, and a final review of findings with senior management. For QAD customers, the use of the QAD MMOG/LE Answer Sheet will be used to assist in documenting responses.

Implement the Action Plan

The action plan focuses on areas for internal, customer and supplier improvement identified in the gap analysis. These actions may include documenting missing procedures, upgrading enterprise applications and systems to improve information flow, implementing sub-supplier EDI, improving container tracking and more. Additionally, the assessment recommends selection and evaluation processes, such as the MMOG/LE, that can be used with sub suppliers. QAD provides services and seminars to help companies to help develop sub-suppliers. See MMOG/LE events at www.qad.com/mmogle for a list of current seminars

Certify the Assessment

Several OEMs who require MMOG/LE audit their suppliers when forming a new relationship, on a new product launch, or when service rates or delivery scores fall below acceptable levels for a period of time. Only OEMs can certify and approve a supplier's MMOG/LE score. To ensure their suppliers are committed to continuous improvement, some OEMs require an annual submission of the assessment score.

MMOG/LE Automotive Process Maps

To instill individual and departmental understanding of the key assessment points of MMOG/LE, QAD has developed MMOG/LE Automotive Process Maps.

The process maps provide a visual, interactive learning aid that our customers use in many different ways, including:

- Documenting processes in the plant for customer audit reviews
- Explaining processes and expectations to employees and validating their understanding
- Documenting procedures and contingency plans for plant processes
- Developing a corporate standard or core model to manage global facilities
- Using a single internal map that highlights plant issues and supports interdepartmental collaboration on continuous improvement efforts

Suppliers can easily customize these process maps to document key processes within their plants.

The process maps provide an interactive tool that can contain up to three levels. The following illustrates an example of how Process Maps could be used. The first level of the process maps describes the overall MMOG/LE process as well as the descriptions of the MMOG/LE assessment points located at the top of the process map. The first level of the process map is shown below in Figure 1:

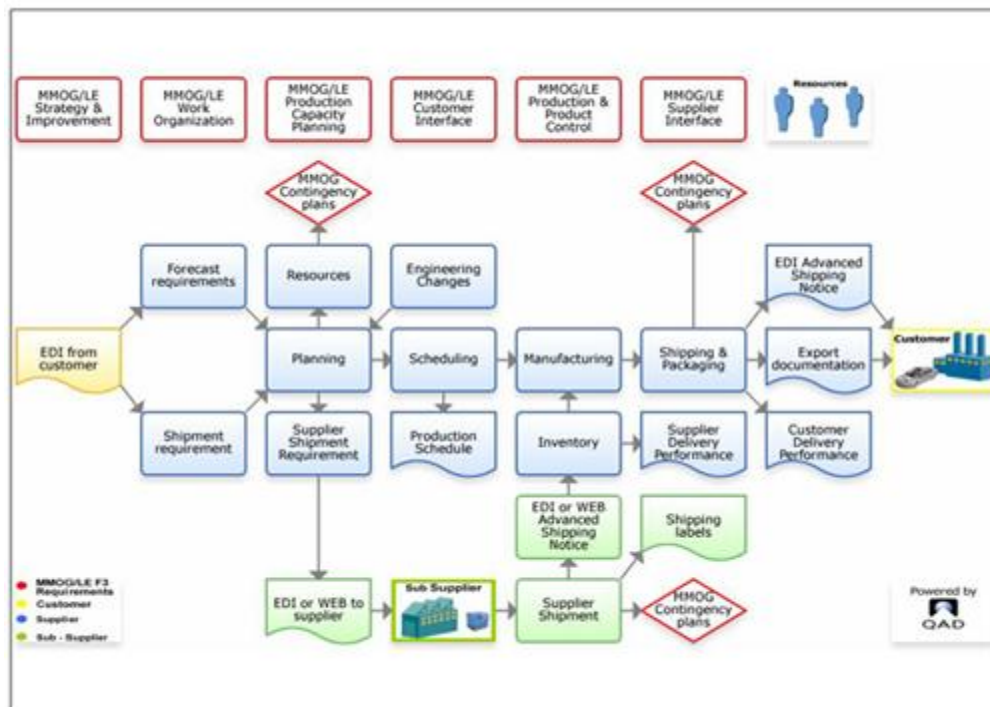


Figure 1

At this level, it is used as an overall map of the materials management and logistics process. The first level of the process map is a great tool from which MMOG/LE discussions on best practices can begin between departments such as materials, purchasing, IT, quality and engineering.

In the example below, if the user clicked “Shipping and Packing” at the first level, it would take them to the next level of the map located in Figure 2. At the second level, the maps can be used to further define an individual process. In Figure 2, the details of how shipping and packaging should occur in the plant is displayed. In the second level of the map, other items can be displayed besides the actual process. In the Figure 2 example, a best practice case study, customer returnable container procedures and links to industry standards for best practices for returnable containers are displayed.

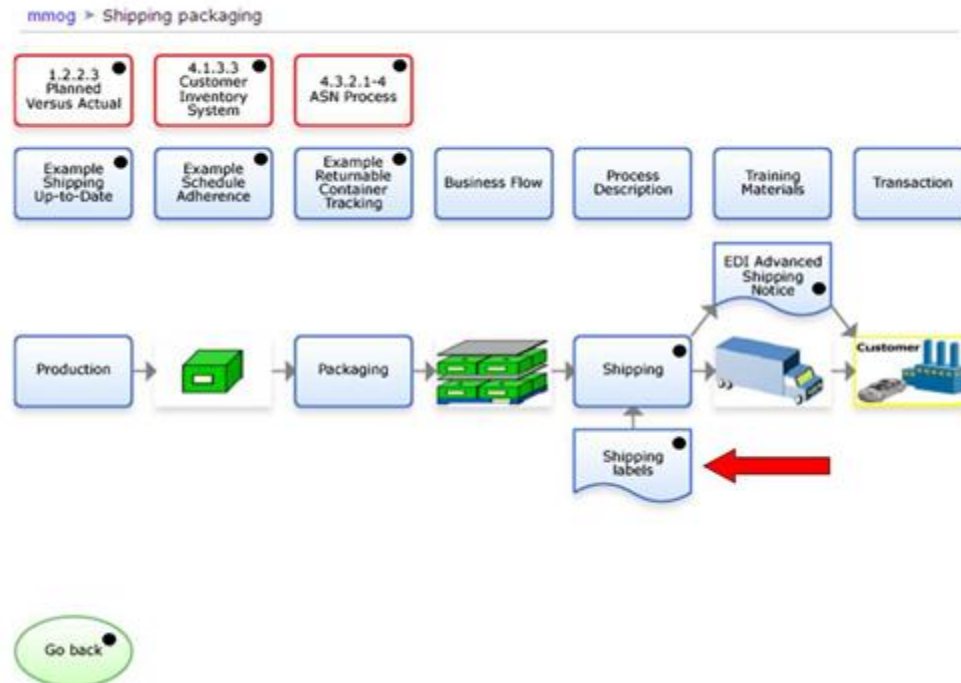


Figure 2

At the third level, the actual best practice case study and links to industry documentation, plant procedures, or actual customer or supplier documents are displayed. In addition, the map can take the plant personnel directly into the plant enterprise application or system. In this example, the screen used to input EDI ASN data for customers has been placed on the process map. Clicking on the EDI Advanced Shipping Notice graphic would take the user directly into the screen to input the ASN information for the shipment. In the example in Figure 2, the process map shows a picture of the customer’s shipping label, which is depicted in Figure 3 below.



Figure 3

OEMs and mature and emerging market suppliers around the world use QAD's process maps to educate employees, streamline processes, implement best practices, and ensure that key processes with their plants are clearly documented.

To learn how you use process maps to meet MMOG/LE best practices, contact: mmogle@qad.com.

QAD Enterprise Applications

QAD provides innovative enterprise software applications for leading global manufacturing companies. QAD applications are designed to simplify the management and enhance the efficiency of manufacturing resources and operations both within and beyond the enterprise. QAD Manufacturing is the core foundation for numerous modules that make up the complete the QAD Enterprise Application suite.

QAD Manufacturing

QAD Manufacturing core product is made up of three primary functions:

Product Data Management - Centrally manage all product manufacturing information by ensuring quick access to key information for use in planning and operations throughout the organization. Through the Product Data Management function, product design or engineering changes are integrated at maximum efficiency, allowing rapid response to customer demands while also ensuring regulatory compliance and the lowest possible obsolescence cost. [Product Data Management: Learn More.](#)

Product Data Management is used to meet the following MMOG/LE best practices:

- Tracking, documenting approving, releasing, incorporating and implementing Product Change Orders
- Maintaining an audit trail and history of all change requests
- Setting up suggestion design and approval groups
- Tracking during project realization process
- Documenting and modeling procedures and processes
- Establishing document control procedures
- Ensuring full document control procedures are met
- Organizing, monitoring and controlling training materials and requirements
- Documenting employees' skills
- Establishing target skill levels for each job or classification to be documented
- Supporting and reporting government mandated traceability for all affected parts (e.g., TREAD Act)

Manufacturing Planning – Designed to speed operation, QAD's Manufacturing Planning functions enable faster decision-making and more effective resource deployment. The Manufacturing Planning Modules convert external and internal demand for products into detailed manufacturing, procurement and resource utilization plans. Modules provide Material and Resource Planning capabilities range from enterprise level strategic planning functions through plant level Master Production Scheduling and Materials Requirements Planning. [Manufacturing Planning: Learn More.](#)

Manufacturing Planning is used to meet the following MMOG/LE best practices:

- Calculating set up and change over time
- Reporting efficiency, productivity and utilization
- Displaying and assessing accuracy of internal production scheduling versus customer requirements
- Utilizing daily forecast schedule of part numbers and quantities due by date
- Ensuring sufficient resources are available to support and implement identified requirements
- Investigating, communicating and rectifying deviations from the MP&L instructions
- Alerting to alternate resources for bottle-neck processes
- Improving accuracy of scheduling process with use of throughput time and line allocations
- Highlighting changes in capacity usage to the scheduler
- Demonstrating and monitoring comparison of resources versus customer requirements
- Generating production schedules from customer requirements
- Ensuring accuracy of planning and scheduling functions
- Documenting and modeling procedures and processes
- Establishing document control procedures
- Ensuring full document control procedures are met

Manufacturing Execution – Easily adaptable to your production environment, QAD's Manufacturing Execution functions fully manage mixed mode environments, enabling faster decisions and improved customer responsiveness. This solution controls all activities on the production floor, from identifying missing parts to reporting labor. Manufacturing modules provide a closed-loop environment with transaction, variance and lot/serial traceability reporting, lean manufacturing and quality management. Feedback on status, shortages, quality problems, or other issues is immediately. [Manufacturing Execution: Learn More.](#)

Manufacturing Execution is used to meet the following MMOG/LE best practices:

- Working with alliance partners to meet requirements for bar code printing and reading integration
- Measuring and monitoring Internal Customer Satisfaction
- Measuring fulfillment of replenishment requests
- Indicating and measuring critical and warning limits
- Communicating the performance of the organization
- Analyzing scrap, rework, downtime and reject data
- Using a pull system to automatically offset losses or gains
- Updating inventory directly from Kanban activity recordings
- Setting alerts when critical balances of a product are hit
- Facilitating material tracking through the entire shop floor process
- Documenting, routing and assigning action to all incidents
- Identifying all storage locations accurately
- Documenting and modeling procedures and processes
- Establishing document control procedures
- Ensuring full document control procedures are met

QAD Supply Chain

QAD Supply Chain is a comprehensive group of applications that fulfills the diverse materials planning and movement requirements of small or large, multi-national companies. This solution set delivers functionality and capabilities that help manufacturers drive margin and cost improvements, enhance customer satisfaction, and meet industry compliance requirements. Manufacturers can align demand and supply to support the delivery of the right product, to the right place, at the right time, at the right cost.

[QAD Supply Chain: Learn More.](#)

QAD Supply Chain is used to meet the following MMOG/LE best practices:

- Measuring inventory turns and generating the calculation in a monthly report
- Understanding the true cost of each product
- Considering and optimizing packing material as a part of the total MP&L costs
- Receiving under lot control will allow FIFO inventory
- Supporting inventory management Key Performance Indicators (KPIs)
- Designing material flow to support FIFO where applicable
- Providing a controlled procedure for the correction and follow-up of any discrepancies in the receipt of material
- Ensuring receiving transaction has a unique identifier to support problem resolution
- Balancing and utilizing all variables that affect receiving activities
- Ensuring sufficient resources are available to support and implement identified requirements
- Investigating, communicating and rectifying deviations from the Material Planning and Logistics (MP&L) instructions
- Working with alliance partners to meet requirements for bar code printing and reading integration
- Measuring fulfillment of replenishment requests
- Indicating and measuring critical and warning limits
- Communicating the performance of the organization
- Updating inventory directly from Kanban activity recordings
- Setting alerts when critical balances of a product are hit
- Documenting, routing and assigning action to all incidents
- Identifying all storage locations accurately
- Supporting and reporting government mandated traceability for all affected parts (e.g., TREAD Act)
- Documenting and modeling procedures and processes
- Establishing document control procedures
- Ensuring full document control procedures are met

QAD Customer Management

QAD Customer Management solutions help you deliver superior customer service through flexibility, information access and rapid, accurate fulfillment of customer needs by providing easy-to-use demand planning, order management, shipping, invoicing and sales analysis capabilities. [QAD Customer Management: Learn More.](#)

QAD Customer Management is used to meet the following MMOG/LE best practices:

- Tracking, analyzing and monitoring the costs associated with freight in order to improve performance and meet specified KPI's
- Defining the process and notifying the customer for each shipment when alternative or back-up packaging is used
- Ensuring quantity-shipped disagreements with the customer are detected and reconciled in a timely manner without cost penalties to the customer
- Supporting and reporting government mandated traceability for all affected parts (e.g., TREAD Act)
- Tracking configuration lot and serial number history by end user
- Balancing and utilizing all variables that affect shipping activities
- Documenting and modeling procedures and processes
- Establishing document control procedures
- Ensuring full document control procedures are met
- Displaying and assessing accuracy of internal production scheduling versus customer requirements
- Utilizing daily forecast schedule of part numbers and quantities due by date
- Ensuring sufficient resources are available to support and implement identified requirements
- Investigating, communicating and rectifying deviations from the MP&L instructions
- Demonstrating and monitoring comparison of resources versus customer requirements
- Generating production schedules from customer requirements
- Communicating the performance of the organization
- Documenting, routing and assigning action to all incidents
- Identifying all storage locations accurately
- Considering and optimizing packing material as a part of the total MP&L costs
- Ensuring sufficient resources are available to support and implement identified requirements
- Investigating, communicating and rectifying deviations from the MP&L instructions
- Working with alliance partners to meet requirements for bar code printing and reading integration

QAD Business Intelligence

With QAD Business Intelligence, companies can view and analyze information in important areas such as vendor rating, inventory monitoring, and manufacturing performance at the plant level as well as across the entire enterprise. With QAD Business Intelligence, management gains visibility into key performance drivers, which helps them quickly identify and address disparities between current conditions and strategic plans. Incorporating reliable and timely information into the planning process leads to more accurate financial forecasts, and expands the business performance horizon. [QAD Business Intelligence: Learn More.](#)

QAD Business Intelligence is used to meet the following MMOG/LE best practice:

- Measuring delivery performance, supplier performance, and internal performance
- Monitoring and reviewing performance against objectives at planned intervals
- Using graphical analysis tools, (e.g., Pareto graphs) to track critical areas over time
- Displaying historical and trend data to track critical areas over time
- Evaluating and reviewing corrective/preventive actions performed at the conclusion of each action plan
- Assessing supply chain with carrying methods of analysis
- Measuring, implementing and communicating all KPI's to relevant functions.
- Developing measurements for customer satisfaction
- Reviewing all measures on a regular basis
- Assessing company's performance to all customers on a regular basis
- Maintaining records, comparing schedules, and supplying information to all appropriate persons
- Evaluating important material processes for the organization

QAD Consignment Inventory

Consigned inventory is an important tool for speeding inventory processing and reducing the amount of capital invested in inventory. It supports the concepts of vendor-managed inventory (VMI) and integrates seamlessly into automotive functions.

Used with QAD Supply Visualization, the Supplier Consigned Inventory function directly supports VMI concepts by giving suppliers control over their own inventory, within limits, at the customer's site. This is particularly unique because it allows VMI to be implemented without direct access to the customer's inventory data. [QAD Consignment Inventory: Learn More.](#)

QAD Consignment Inventory – Supplier is used to meet the following MMOG/LE best practices:

- Balancing and utilizing all variables that affect receiving activities
- Using interactive inventory management systems where they are available from the supplier

Customer consigned inventory supports the management of consigned goods at customer locations so that inventory can be shipped to customers as consigned goods, without actual transfer of title. The supplier maintains the consigned goods as finished goods inventory until the customer gives notice that the inventory has been used. Consumption triggers the creation of an invoice for the customer and the finished goods inventory is relieved on the supplier's books.

QAD Consignment Inventory - Customer is used to meet the following best MMOG/LE practices:

- Balancing and utilizing all variables that affect shipping activities
- Using interactive inventory management systems where they are available from the customer

QAD EDI eCommerce

EDI speeds the transfer of business information through the supply chain. When EDI data is automatically integrated into ERP, manual transference of data is avoided.

The QAD Total eCommerce Solution imports and exports EDI (ANSI X12, Odette, VDA and EDIFACT) and XML messages. This allows users to accept, analyze, edit, audit and even reprocess EDI- or XML-formatted documents quickly and efficiently. As part of QAD Total eCommerce Solution, QAD resells and supports the Sterling Commerce Gentran Integration Suite to provide end-to-end EDI capability including communications, translation and business process transformation. [QAD EDI eCommerce: Read More.](#)

QAD Total eCommerce Solution is used to meet the following MMOG/LE best practices:

- Automatically receiving into ERP customer releases and schedules
- Sending electronic ASNs to customers
- Sending releases and schedules automatically to sub suppliers
- Receiving electronic ASNs from suppliers
- Ensuring ASNs to customers are accurate
- Ensuring ASNs from suppliers are accurate

QAD Enterprise Asset Management

QAD Enterprise Asset Management integrates project control management, plant maintenance, MRO inventory and purchasing together into a solution enabling a plant to run more smoothly, and keep equipment running at the lowest cost. QAD Enterprise Asset Management allows you to set up a budget, identify tasks, and secure material for both internal projects (such as PPAP, Prototype, Program Launch, and ECN implementations) and external projects (such as tooling and customer-charged projects). Can be used as a stand alone package or fully integrated within QAD Enterprise Applications. [Enterprise Asset Management: Learn More.](#)

QAD Enterprise Asset Management is used to meet the following best practices (based on MMOG/LE):

- Calibrating and maintaining equipment at regular intervals
- Defining the inspection and calibration procedure
- Scheduling next inspection/calibration date
- Ensuring all objectives are measurable and consistent with the organization's MP&L strategy
- Prioritizing documented action plan, including the action, responsibility, timing and allocation of resources
- Documenting employee responsibility for continuous improvement tasks
- Allowing employees time to work on continuous improvement tasks
- Providing and designating employee backups to manage workflow when the primary employee is not available
- Defining, reviewing and updating job descriptions/skills matrices exist for each key function within MP&L
- Identifying and documenting competence required for each position and function within the MP&L department
- Using EAM for project management and control in all areas
- Calibrating and maintaining quantity-determination equipment to a recognized standard at planned intervals
- Defining, scheduling and displaying inspection status and date for all quantity-determination equipment
- Defining and scheduling responsibility for equipment calibration
- Documenting, implementing and evaluating a tool's lifecycle (e.g., current status, rework history, ownership, authorizations, BOM item link)
- Evaluating tool disposition when related to past models or inactive parts
- Tracking customer authorizations for reworking or disposing of tools
- Providing a selection process for sub suppliers and sub-contractors, and communicating results to all involved

QAD Lean Manufacturing

QAD Lean Manufacturing provides complete functionality to establish and execute Kanban processes, both inside the manufacturing plant, between facilities and with suppliers. The automated features of QAD Lean Manufacturing assist in implementation and achieve the maximum potential benefits by integrating standard Kanban processes with those features unique to the automotive supply chain.

Flow Manufacturing and Kanban Management are critical requirements for short-term planning and execution while maintaining low levels of inventory in many manufacturing environments. QAD's Flow Scheduling and Kanban Management functionality, which includes Kanban Transactions, addresses many of the key issues faced by these manufacturers. [QAD Lean Manufacturing: Learn More.](#)

QAD Lean Manufacturing is used to meet the following MMOG/LE best practices:

- Utilizing pull system concepts within the shop floor production planning process
- Evaluating performance of corrective/preventive actions and determining their effectiveness
- Utilizing daily forecast schedule of part numbers and quantities due by date
- Integrating pull system techniques into the production planning process
- Evaluating and adjusting (if necessary) inventory buffers
- Evaluating all factors influencing the need for inventory buffers, (e.g., demand variability, process capabilities, internal transport and warehousing situation, customer safety stock requirements, different industrial calendars, etc...)
- Calculating EPEI, takt time, card loop quantities and buffer quantities
- Recalculating card loop quantities based on customer releases
- Generating level loads and supplier projections
- Displaying Electronic Kanban to sub suppliers through Supply Visualization:
 - Estimating and reviewing labor and machine usage as part of the schedule
 - Reporting and comparing actual to planned production rates
 - Maintaining the integrity of the scheduling information
 - Automating data entry functions for receiving and consuming material

QAD Logistics Accounting

QAD Logistics Accounting handles the financial transactions associated with freight. By identifying the specific freight expense for a component or end product, it provides a more holistic view of total product cost. QAD Logistics Accounting gives suppliers the opportunity to control costs in this area. As suppliers have been tasked to make more deliveries and generate more freight transactions, it has become essential to closely monitor freight expense. [QAD Logistics Accounting: Read More.](#)

QAD Logistics Accounting is used to meet the following MMOG/LE best practices:

- Tracking, analyzing and monitoring the costs associated with freight in order to improve performance and meet specified KPI's
- Understanding the true cost of the product
- Managing inbound and outbound freight requirements
- Documenting and controlling cross border shipments
- Measuring ordinary and extraordinary costs

Container Management and QAD PRO/PLUS Container Line Charges

With Container Management, suppliers can track a variety of shipping containers or allocate additional line charges, including special package handling, premium freight, painting, or detailing.

Container charges can be assessed for pallets, crates, bins, expendable containers, or any other shipping containers not already accounted for sales order line.

Container charges apply when, for example, an automotive supplier that normally ships parts in returnable containers runs out because the customer is behind with returns. Based on a pre-arranged agreement, the supplier uses expendable cartons, for which the customer is charged.

Line charges apply when, for example, a supplier that typically ships beige dashboard parts receives a request for black. This requires production line changes, and the supplier incurs extra costs. [QAD PRO/PLUS: Learn More.](#)

Container Management and QAD PRO/PLUS Container Line Charges are used to meet the following MMOG/LE best practices:

- Monitoring packages, packaging specifics and labeling specs
- Measuring quality, ordinary and extraordinary costs
- Quantifying time and cost for administrative operations of the MP&L function
- Defining the process and notifying the customer for each shipment when alternative or back-up packaging is used
- Considering and optimizing packing material as a part of total MP&L costs
- Creating customized calculation methods for extended container or line charge pricing
- Adding miscellaneous line and/or container item charges to sales orders, pending invoices, and scheduled orders
- Adding line and/or container item charges in container, shipper and ASN programs
- Tracking shipping codes such as Approved Expediting Trucking Charge (AETC) on scheduled order, shippers, and advanced shipment notices (ASNs)
- Creating customized validation programs to validate shipping codes

QAD Planner

QAD Planner provides finite capacity planning and scheduling tools for managing production through capacity-constrained resources. It offers enhanced capabilities to coordinate demand, scheduling, and materials and resource planning. A fully integrated component of QAD Enterprise Applications, QAD Planner is ideal for any organization that can plan its production activities on a planning board.

The solution combines all the visual features and impact of a manual planning board with the speed, utility and intellect of a sophisticated workstation. The solution provides both a text and visual approach to the complex task of producing working schedules in planning and resource environments where many orders are processed at once. And, it provides highly useful reports for production staff, sales personnel and management. [QAD Planner: Learn More.](#)

QAD Planner is used to meet the following MMOG/LE best practices:

- Alerting to alternate resources for bottle neck processes
- Improving accuracy of scheduling process with use of throughput time and line allocations
- Highlighting and visualizing changes in capacity usage to the scheduler
- Demonstrating and monitoring comparison of resources versus customer requirements using visual indicators
- Generating production schedules from customer requirements
- Ensuring accuracy of planning and scheduling function

QAD PRO/PLUS WIP Lot Trace

Lot serial tracking is becoming more prevalent from automotive OEMs. Suppliers and sub-suppliers are required to identify, track, and historically trace lot control data. QAD PRO/PLUS WIP Lot Trace can be used for more complex lot control requirements than is found in base QAD Enterprise Applications. QAD PRO/PLUS WIP Lot Trace extends the capabilities of the QAD base system to capture additional attribute characteristics by batch versus item number and trace and track materials based on supplier lot numbers. [QAD PRO/PLUS: Learn More.](#)

QAD PRO/PLUS WIP Lot Trace is used to meet the following MMOG/LE best practices:

- Supporting and reporting government mandated traceability for all affected parts (e.g., TREAD Act)
- Facilitating material tracking through the entire shop floor process

QAD Production Scheduler

QAD Production Scheduler is a Web-based application that increases scheduling efficiency by leveraging key QAD Enterprise Applications demand, supply, inventory, and MRP scheduling data into a single screen. It can be used with the QAD Enterprise Applications Repetitive, Advanced Repetitive and Discrete Work Order modules.

With QAD Production Scheduler, the person responsible for scheduling can interact with the schedule and make changes where necessary. Visual indicators help the scheduler determine and illustrate potential problem areas. [QAD Production Scheduler: Learn More.](#)

QAD Production Scheduler is used to meet the following MMOG/LE best practice:

- Alerting to alternate resources for bottle neck processes.
- Improving accuracy of scheduling process with use of throughput time and line allocations.
- Highlighting and visualizing changes in capacity usage to the scheduler.
- Demonstrating and monitoring comparison of resources versus customer requirements using visual indicators.
- Generating production schedules from customer requirements.
- Ensuring accuracy of planning and scheduling

QAD Service & Support Management

QAD Service & Support Management is an important tool for manufacturers to support the products they sell. Servicing items in the field, recalls or processing returns for repair/replacement is a strategy that can be leveraged into long-term competitive advantage ongoing, increasing service revenue.

QAD Service & Support Management manages customer returns, warranty, repair depots, field service organizations and suppliers servicing the items they sell. QAD Service & Support Management ensures high levels of customer satisfaction by improving the speed of all service and support activities.

QAD Service & Support Management is unique because it provides inventory replenishment capability to repair centers and field engineers. Also, QAD Service & Support Management-generated service contracts proactively plan and schedule preventative maintenance activities. Another strength is that, when select customers need to be contacted about product upgrades or warned of defects, SSM generates marketing letters or recall notifications. [QAD Service & Support Management: Learn More.](#)

QAD Service & Support Management is used to meet the following best practices (based on MMOG/LE):

- Identifying and meeting applicable safety and environmental regulations
- Designating employee backups for key tasks when primary employee is not available
- Ensuring sufficient resources are available to support and implement identified requirements
- Providing a controlled procedure for the correction and follow-up of any discrepancies in the receipt of material
- Ensuring receiving transaction has a unique identifier to support problem resolution
- Ensuring quantity-shipped disagreements with the customer are detected and reconciled in a timely manner without cost penalties to the customer
- Entering and tracking customer returns (RMA).
- Supporting and reporting government mandated traceability for all affected parts (e.g., TREAD Act)
- Tracking configuration lot and serial number history by end user
- Investigating, communicating and rectifying deviations from the MP&L instructions
- Tracking of Supplier Return material (RTS) can provide performance data

QAD Supply Visualization

QAD Supply Visualization is an on-demand service that enables real time collaboration between a customer and supplier through shared inventory usage history, shared schedules, and communication, tracking and tracing of ASNs. By using QAD Transportation Management with QAD Supply Visualization, the shipment is tracked as it passes through shipping transfer points that the customer has identified for the shipping route. Alerts can be defined and triggered so that any significant variations to planned/estimated event dates/times can be pro-actively communicated to the appropriate parties to avoid sub supplier production disruptions. The estimated time of arrival at the next and subsequent events is re-calculated for the shipment. [QAD Supply Visualization: Learn More.](#)

QAD Supply Visualization is used to meet the following MMOG/LE best practices:

- Providing electronic communication to sub suppliers
- Sharing forecast, schedule and kanban visualize data
- Communicating electronic ASNs from sub suppliers, ensuring accuracy
- Tracking intransit sub supplier material
- Enabling sub suppliers to gain control of inventory management
- Tracking and tracing in-bound material from time of supplier shipment through to receipt of material (including domestic and international shipments)
- Automating sub supplier printing of label in AIAG/Odette format
- Coordinating Bill of Material
- Alerting and communicating critical events
- Highlighting and rectifying incidents or deviations from the plan
- Real time warning/alerting suppliers where there is a risk that sub suppliers cannot fulfill requirements
- Communicating contingency plans
- Detecting material shortages via ASNs
- Reporting supplier delivery performance
- Providing sub supplier contact list
- Providing consignment functionality and visibility
- Specifying the responsibilities and procedures of the relationship between supplier and sub supplier
- Specifying communication procedures including language and contacts within all functions
- Specifying capacity, flexibility demands and delivery conditions, (e.g., unit loads, packaging, transportation, transportation costs, batch sizes and documentation)

QAD Transportation Management

QAD Transportation Management provides a tool for companies with long distance supply chains to monitor shipment progress so that delays are avoided and early corrective actions are taken when necessary. [QAD Transportation Management: Learn More.](#)

QAD Transportation Management is used to meet the following MMOG/LE best practices:

- Measuring ordinary and extraordinary costs
- Quantifying time and cost for administrative and physical operations of the MP&L function
- Measuring and controlling premium freight
- Investigating, communicating and rectifying deviations from the MP&L instructions
- Defining capacity, flexibility demands and specific delivery conditions
- Ensuring sub suppliers, sub-contractors, and logistics providers communicate when there is a risk that requirements cannot be fulfilled
- Detecting material shortages on inbound shipments
- Providing and controlling accuracy of cross border documentation

QAD Warehousing

QAD Warehousing automates warehouse functions such as inventory management and movement, promoting a paperless environment. In conjunction with QAD Enterprise Applications, QAD Warehousing creates automated tasks, displayed using a radio frequency (RF) device, that prompt warehouse personnel to perform any number of inventory activities. As transactions occur in QAD Enterprise Applications, they translate through QAD Warehousing into optimal tasks such as location find/audit, put-away, picking, cross docking, quality control, replenishment, transfers and advanced cycle counting activities. [QAD Warehousing: Learn More.](#)

QAD Warehousing is used to meet the following MMOG/LE best practices:

- Measuring ordinary and extraordinary costs
- Quantifying time and cost for administrative and physical operations of the MP&L function
- Using FIFO practices and minimizing potential detention and demurrage related charges on inbound and outbound conveyances
- Receiving under lot control will allow FIFO inventory
- Identifying all storage locations accurately
- Supporting inventory management KPI's by providing visual controls
- Designing material flow to support FIFO where applicable
- Providing error reduction tools for part storage, part movement and accurate inventory records. Evaluating tools periodically
- Providing visual controls, bar coding and eliminating manual entry
- Balancing utilization of docks and space

Shipping Performance

Suppliers need to track their customer shipment performance metrics to comply with their customers' requirements and also to be proactive and improve their own processes. Shipping Performance enables users to monitor how well a shipping department meets customer requested ship dates and quantities by comparing planned to actual ship dates and quantities. Companies need detailed shipment information to measure, rate and continually improve their delivery performance.

Shipping Performance is used to meet the following best MMOG/LE practices:

- Measuring delivery performance to the customer
- Tracking portions of dock operations
- Selecting and assessing the carrier/lead logistics provider regarding logistics, flexibility and quality parameters.
- Tracking shipping performance to detect issues before they become critical
- Reviewing, assessing and taking corrective action.
- Exporting of performance data for manipulation with external reporting tools.
- Validating customer's assessment of your performance

Supplier Performance

Suppliers need to track sub supplier shipment performance metrics in order to be proactive and improve supplier performance. QAD's Supplier Performance enables monitoring how well a sub supplier is meeting requested ship dates and quantities by comparing planned to actual ship dates and quantities. Companies need supplier performance information to measure, rate and continually improve their supply chain delivery performance. [Supplier Performance: Learn More.](#)

Supplier Performance is used to meet the following MMOG/LE best practices:

- Analyzing and improving supply chain performance
- Tracking portions of dock operations
- Selecting and assessing the carrier/Lead Logistics Provider regarding logistics, flexibility and quality parameters.
- Selecting and evaluating sub suppliers
- Investigating, communicating and rectifying deviations from MP&L instructions
- Documenting procedures for the follow-up of transportation issues relating to quality , cost, and delivery
- Reviewing and analyzing supplier performance levels on a regular basis
- Exported performance data for manipulation with external reporting tools
- Creating report cards, and informing sub suppliers of their performance levels
- Enabling corrective action by supplier and sub supplier when required

QAD Process Maps

Process Maps are graphic representations of workflows that can include links to programs, browses, documentation and other maps. Accessible throughout QAD Applications, Process Maps facilitate the rapid development and deployment of company best practices. Process Maps may be created for virtually any segment of an organization's method of operation, edited to model unique environments, and can be as high level or detailed as appropriate. [Read more.](#)

QAD Process Maps can be used to meet the following MMOG/LE best practices:

- Documenting any process or procedure

QAD Operational Metrics

Operational Metrics provide a way to frequently review planning performance and the quality of the data used in your operations. Operational Metrics provides visibility of problem in any of a number of key areas and to trace the problem back to root causes. Operational Metrics track the diagnostic measurements that support a company's vital signs—allowing decisions to be made for leaner and more efficient production. [Read More](#)

QAD Operational Metrics can be used to meet the following MMOG/LE best practices:

- Ensuring objectives are documented, specific, measurable, achievable, realistic, timely and consistent within the organization's MP&L strategy.
- Measuring internal performance
- Defining the quality of work within MP&L processes
- Measuring performance against objectives with top management and communicating to all relevant personnel/functions
- Analyzing and measuring internal customer satisfaction

QAD Browsers

System-wide, user-adjustable browsers provide easy access to all business records, ability to generate graphs and a direct link to Excel. Browsers allow a drill down to individual records. Save search criteria. Customize your view. Share sort criteria with others.

QAD Browsers can be used to meet the following MMOG/LE best practices:

- Target any specific data in a customized view
- Comparing and summarizing data
- Detecting when data is out of tolerance