# Table of Contents

**Introduction to QAD** ............................................................................................................. 7  
  QAD Quick Facts .................................................................................................................. 8  
  QAD Worldwide Locations ................................................................................................. 8  
**QAD Enterprise Applications Overview** ............................................................................. 9  
  QAD Enterprise Applications Key Benefits ................................................................. 9  
  QAD and Manufacturing ................................................................................................. 9  
  Product Usability ─ Channel Islands ............................................................................. 10  
    Key Usability Features .................................................................................................. 10  
  QAD Enterprise Platform ................................................................................................. 11  
  Process Maps and Process Standardization .................................................................. 11  
    Benefits of Process Maps ............................................................................................ 12  
**QAD Cloud ERP** .............................................................................................................. 13  
  QAD Cloud ERP Benefits ............................................................................................... 13  
  Key QAD Cloud ERP Strengths ...................................................................................... 14  
    Freedom ......................................................................................................................... 14  
    Flexibility ....................................................................................................................... 14  
    Accessibility ................................................................................................................... 15  
    Low Risk ERP with Security and Control ................................................................... 15  
    Predictability ................................................................................................................ 15  
    Simplicity ...................................................................................................................... 15  
  QAD Cloud ERP Editions ................................................................................................. 16  
  QAD Cloud ERP Capabilities .......................................................................................... 17  
    Bundle Notes ................................................................................................................ 17  
    Data Storage .................................................................................................................. 18  
  QAD Cloud ERP Services ............................................................................................... 18  
  Services Available with QAD Cloud ERP ........................................................................... 18  
    Service Management .................................................................................................. 18  
    Infrastructure Management ......................................................................................... 19  
    Systems Management .................................................................................................. 19  
    EDI Management ......................................................................................................... 19  
    QAD Cloud EDI ........................................................................................................... 19
Industrial Manufacturing Functional Benefits .......................................................... 45
QAD Manufacturing in Industrial Manufacturing ...................................................... 46
QAD Customer Management in Industrial Manufacturing ....................................... 47
QAD Supply Chain in Industrial Manufacturing ...................................................... 48
QAD Financials in Industrial Manufacturing ............................................................ 49

QAD in Consumer Products ..................................................................................... 50
Consumer Products Key Issues ................................................................................ 50
Consumer Products Value Chain ............................................................................. 51
Consumer Products Industry Segments .................................................................... 51
Consumer Products Functional Benefits ................................................................... 52
QAD Manufacturing in Consumer Products .............................................................. 53
QAD Customer Management in Consumer Products .............................................. 54
QAD Supply Chain in Consumer Products ............................................................... 55
QAD Financials in Consumer Products ..................................................................... 56

QAD in Food and Beverage ....................................................................................... 58
Food and Beverage Key Issues ................................................................................ 58
Food and Beverage Value Chain .............................................................................. 59
Food and Beverage Segments .................................................................................. 60
Food and Beverage Functional Benefits ................................................................... 60
QAD Manufacturing in Food and Beverage .............................................................. 61
QAD Customer Management in Food and Beverage .............................................. 62
QAD Supply Chain in Food and Beverage ............................................................... 63
Financials in Food and Beverage ............................................................................. 64

QAD Enterprise Applications .................................................................................... 66
Financials .................................................................................................................. 67
Financials Highlights ............................................................................................... 67
Partner Products ....................................................................................................... 69

Customer Management ............................................................................................ 71
Customer Management Highlights .......................................................................... 71
Partner Products ....................................................................................................... 72

Manufacturing .......................................................................................................... 73
Manufacturing Highlights ......................................................................................... 73
QAD Solution Guide V 35
2018

Partner Products.......................................................................................................................... 74

Supply Chain ................................................................................................................................. 76
  Supply Chain Highlights ............................................................................................................. 76
  Partner Products ......................................................................................................................... 77

Service and Support .................................................................................................................... 78
  QAD Service and Support Highlights ....................................................................................... 78

Analytics ....................................................................................................................................... 79
  QAD Enterprise Applications Analytics Highlights ................................................................. 79

Interoperability ............................................................................................................................ 81
  QAD Enterprise Applications Interoperability Highlights ......................................................... 81
  Partner Products ......................................................................................................................... 82

Process and Performance ............................................................................................................ 83
  QAD Process and Performance Highlights .............................................................................. 83
    QAD Workflow Alerts ............................................................................................................... 83
    QAD Performance Monitoring Framework .............................................................................. 83
    QAD Business Process Management ....................................................................................... 83

QAD Enterprise Applications by Process ..................................................................................... 84
  Business Processes ................................................................................................................... 84
    Design ..................................................................................................................................... 84
    Plan ......................................................................................................................................... 86
    Source .................................................................................................................................... 87
    Make ....................................................................................................................................... 88
    Engage .................................................................................................................................... 90
    Deliver ................................................................................................................................. 91
    Service .................................................................................................................................... 92
    Finance ................................................................................................................................. 93
    Enable ..................................................................................................................................... 95

End-to-End Processes .................................................................................................................. 98
  Key End-to-End Processes ........................................................................................................ 98
    Quote to Cash ......................................................................................................................... 98
    Procure to Pay ....................................................................................................................... 99
    Plan to Perform ...................................................................................................................... 100
QAD Implementation Methodology ................................................................. 101
    Easy On Boarding ......................................................................................... 101
    Key Benefits ............................................................................................... 102
    QAD Easy On Boarding Steps ..................................................................... 102

QAD Consulting .......................................................................................... 105
    QAD Extended Solution Services (QAD ESS) ........................................... 105
    Migration and Upgrade Services ............................................................... 105
    Business Consulting Services ................................................................... 105

QAD Education ............................................................................................ 106
    User Readiness ........................................................................................... 106
    QAD Learning Center ............................................................................... 106
    QAD Certification Program ....................................................................... 106
    QAD Product Documentation ................................................................... 107

QAD Customer Support ................................................................................ 108
Introduction to QAD

QAD was founded in 1979 with a vision to develop software exclusively for manufacturing companies. Many global companies choose QAD for our global manufacturing focus and multinational support. We derive over 50 percent of our revenue from outside the United States. Today, we are proud that our products are in use at over 4,000 sites in more than 100 countries.

Early in our evolution, we embraced the emergence of open systems, which today form the foundation of most companies’ applications architecture. We were one of the first ERP companies with an offering in the cloud when we introduced QAD Supplier Portal in 2003. We focus on developing products that are easy to learn, intuitive to operate and that meet the needs of manufacturing companies. We back up our products with world-class services and support, and we have more than 1,800 people dedicated to delivering the best user experience in the world.

We have been able to remain focused on our customers and vision without distraction through market ups and downs. We focus on providing the best combination of software and services for our customers, and we have built a business with a customer focused culture, a strong and experienced global executive team and an impressive board of directors.

While other companies may be larger than QAD, none has our complete focus on global manufacturing companies. For nearly 4 decades, we have concentrated on a select set of vertical markets in manufacturing: automotive, consumer products, food and beverage, high tech, industrial and life sciences.

We recognize the challenges faced by our customers and we bring to that challenge a combination of vision, commitment and technology to help them excel in today’s environment.

Sincerely,

Pam Lopker
President
## QAD Quick Facts

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Founded:</td>
<td>1979</td>
</tr>
<tr>
<td>Symbol:</td>
<td>NASDAQ: QADA &amp; QADB</td>
</tr>
<tr>
<td>Revenue:</td>
<td>US $305 million FY18</td>
</tr>
<tr>
<td>Worldwide Employees:</td>
<td>Approximately 1,800</td>
</tr>
<tr>
<td>Headquarters:</td>
<td>Santa Barbara, CA, USA</td>
</tr>
<tr>
<td>Licensed Sites:</td>
<td>4,000+</td>
</tr>
<tr>
<td>Industries:</td>
<td>Automotive, Life Sciences, Industrial, High Tech, Consumer Products, Food &amp; Beverage</td>
</tr>
</tbody>
</table>

## QAD Worldwide Locations:

![Worldwide Locations Map]
QAD Enterprise Applications Overview

QAD Enterprise Applications is a complete suite of software designed to support all the key processes of global manufacturers. The software is in use at over 4,000 sites worldwide. QAD Enterprise Applications enables measurement and control of all key business processes, and embraces best practices to support companies, whether in a single plant or across an entire global organization.

QAD has a vision for a future state where every QAD customer becomes an Effective Enterprise. We define an Effective Enterprise as one where every business process works at peak efficiency, and every process aligns perfectly to the customers’ strategic goals.

QAD is helping companies achieve this vision by delivering solutions that improve business process efficiency, deployment technologies that make applications simpler to support and more rapid and effective to use and learn and implementation methods that simplify and reduce risk and effort.

QAD Enterprise Applications Key Benefits

• **Business processes supporting best practice:** Built to support best-in-class business processes—easily visible using QAD Process Maps—and changeable to match each company’s unique processes

• **Designed for global multinationals:** Built-in support for local languages, currencies, business practices and legal requirements

• **Deployment flexibility:** Meets the needs of any manufacturing organization with cloud, on-premise or blended deployment options

• **Quick implementation:** QAD Easy On-Boarding provides fast, effective implementation

• **Ease of use:** Easy to use, quick to implement and intuitive to learn

QAD and Manufacturing

QAD delivers solutions that focus on the specific needs of manufacturing companies. QAD develops products and services to address manufacturer’s issues and needs by working collaboratively with leading global manufacturers and industry bodies, and through extensive and ongoing research.

Our industry focus and expertise allows QAD to deliver solutions tailored to the unique needs of automotive, consumer products, food & beverage, high tech, industrial and life sciences manufacturers.

In each of our vertical segments, QAD takes an active role with industry groups and standards bodies to ensure that we embrace new manufacturing practices, address regulatory compliance issues, assess emerging technologies and deliver innovative solutions to give our customers a competitive advantage.

We engage with customers in an annual business review process to determine their current and future challenges. As part of this engagement, we present a Vision analysis...
identifying several ways we believe we can enhance their business processes and assist them in achieving their goals.

The result of QAD’s attention to specific manufacturing industry requirements is a suite of solutions, which more rapidly responds to industry requirements, and more precisely addresses customer requirements than broader, less-focused applications.

Product Usability — Channel Islands

QAD places considerable importance on developing products that are simple to learn and easy to use. The latest development in our User Interface is the Channel Islands initiative, named after the islands visible from the QAD corporate headquarters in Santa Barbara. QAD conceived the Channel Islands initiative to provide a consistent, individually adaptable and device-independent user experience personalized for the activity and the user to increase efficiency, simplify task completion and provide insight to decisions.

The new Channel Islands UX leverages a role-based approach providing insight to support data driven decisions with a simplified view of information. Its redesigned experience optimizes business processes for maximum efficiency.

QAD’s Channel Islands initiative provides manufacturers an adaptable and device independent user experience with support for personalization for each role, activity and worker. Users simplify task completion and decision-makers have access to analytics for insight and smart decision-making. The Channel Islands initiative provides a modern microservices architecture for QAD Cloud ERP and related solutions. It also includes selected native mobile applications and the flexibility to meet new user interface requirements. Easily extend applications using the QAD Enterprise Platform, which also provides support for fast upgrades to take advantage of new features.

Key Usability Features

- Access all QAD products with a single sign-on using any browser
- Activity feeds enable users to follow and receive information about business and transactional events of interest based on user defined criteria
- Visualize and navigate through business processes with customizable process maps, role-based action centers and built-in analytics
- Easily integrate with Microsoft Office applications
- Supports processes that span sales, services, requisitions, purchasing, product structures, supplier collaboration and more
- Rearrange workspaces to match a business process or user preference
- Attach any type of file to a record using standard drop and drag techniques
- Use integrated Inbox messaging from within QAD Cloud ERP
- Customize action centers, activity feeds, menus fields and tabs to streamline usability
• Access multiple workspaces and programs simultaneously
• Use full browse search with drill-down and linking capabilities

**QAD Enterprise Platform**

The QAD Enterprise Platform makes it simple for each manufacturer to deliver unique functionality without creating long-term rigidity in the system. Eliminating rigidity means that future enhancements and upgrades are easier and less costly to deploy. Additionally, enhancements can move through future upgrades without re-creation. This provides greater agility over the long term and increases the value of enhancements through greater longevity.

The QAD Enterprise Platform consists of two foundational components: Foundation Services and Core Model. Apps can be extended or New Apps written on top of these components.

**Foundation Services** provides platform services for common use during application development, platform management tools to support the development lifecycle and infrastructure management capabilities to address configuration and deployment.

**Platform Services** includes User Interface, Mobile, Security, Integration, API Management, Analytics, Data Query, Browse, Globalization, Collaboration and Event/Task Scheduling. These best-in-class services streamline development of apps by providing common frameworks for reuse.

By centralizing Platform Services, apps across the platform deliver a consistent user experience and can leverage the full capabilities that underpin QAD Cloud ERP. Enhancements to Platform Services are instantly available for use by all apps, often without the need to enhance or update the app. For example, new dashboard visualizations use embedded analytics without needing to update the app.

**Process Maps and Process Standardization**

Most global companies strive for process consistency and standardized operations across their business. QAD Enterprise Applications supports this goal by incorporating process maps including industry specific process maps discussed later in this document. These are a powerful set of ‘best practice’ business processes and a tool for online process visualization and documentation. The process map metaphor also allows navigation throughout the entire application.

Process maps provide graphic representations of workflows that can include links to programs, browses, regulatory documentation or other maps. Accessible throughout QAD Enterprise Applications, process maps facilitate the rapid development and deployment of company best practices. Customers’ users can edit process maps for any segment of the organization, or model unique environments in as much detail as appropriate.
• **Improve end user performance:** Make process instructions visual and readily available, increasing awareness of standard procedures for routine and special tasks.

• **Reduce errors and waste:** Users quickly access information regarding handling procedures, detailed documentation and instructions, eliminating guesswork.

• **Increase global staff communication:** Process maps are globally available, and editable to match regional language and operational demands.

**Benefits of Process Maps**

QAD Enterprise Applications process maps allow each company to configure business processes in the applications to match its unique business practices. Process maps can function as a navigation tool, training aid and process-planning tool. Process maps can show subsidiary or chained processes.

- Links multiple actions to a single node
- Includes links to any document type and displays in the current or new browser
- Provides a navigation path to appropriate functionality based on the process
- Provides easy-to-learn, grid-based metaphor for rapid map development and management
- Supports multiple languages
QAD Cloud ERP

QAD Cloud ERP is a full-strength ERP solution that customers can deploy almost anywhere in the world. QAD Cloud ERP applications can coexist with other QAD Enterprise Applications on-premise instances.

Using QAD Cloud ERP, customers can address the needs of their businesses faster and more easily, and they are able to predict costs better than with other solutions.

The application is simple to learn, use and deploy.

QAD Cloud ERP is affordable and has predictable operating costs. The solution easily scales from 10 to more thousands of users.

The solution provides a high level of availability and carries an SSAE16 certification, the highest standard of operational control and data security.

QAD Cloud ERP Benefits

- **Quick and easy to deploy** — Using the QAD Easy on Boarding methodology makes it faster to deploy than typical on-premise installations from other companies. Many competitors are known for slow, complicated and costly implementations.

- **Globally accessible full-strength ERP** — QAD designed QAD Cloud ERP as a right-sized ERP for manufacturers. Many competitors offer massive ERP with little manufacturing-specific capabilities, and others offers only parts of what could be considers a full-featured cloud ERP for manufacturers.

- **No risk of losing the skills needed to support critical applications** — Reduces risk and challenges of maintaining skills to support applications

- **Deployment independence** — Allows QAD Cloud ERP and on-premise deployments to coexist as part of a single environment and provides seamless transition between on-premise and QAD Cloud ERP – this supports manufacturers that want to move to cloud incrementally. We called this a “blended” deployment.

- **High availability** — Greater than 99.5 percent application availability, better than most internal IT organizations can deliver. Actual QAD Cloud ERP results have far exceeded this SLA – check with your cloud consultant.
Highly secure data centers — SSAE16 SOC I Type II documented data centers supporting the QAD Cloud — more stringently controlled and monitored than most internal data centers

ISO certified organization — QAD's development and support processes are certified to ISO9001:2008

Predictable costs — affordable and easy to budget for

Adjusts to business needs — If a customer’s user requirements increase or decrease, they can adjust the user count rapidly — unlike on-premise deployments where redundant or insufficient hardware and upfront license fees may possibly be an issue

Key QAD Cloud ERP Strengths

QAD Cloud ERP has strengths that differentiate it and drive the appeal of the product:

Freedom

QAD Cloud ERP offers customers the same freedoms they enjoy in on premise solutions with the ease and convenience of the cloud:

Upgrade Schedule Control — Upgrade when it makes sense for your business

Choice of User Interface — Choose the innovative Channel Islands UI for unparalleled flexibility or use QAD .NET UI for familiarity. Mix and match by user or task.

Customization — Not every business fits into a template. QAD allows customization to standard code and supports customizations in the cloud

Integration and Third Parties — QAD provides tools to integrate with other applications, whether they are on premise or in another cloud. QAD hosts many third-party partner applications

Streamline Business Processes — Personalize processes to suit the way each user works

Deployment — Cloud, on premise or a blended deployment — you get the same great software no matter where you choose to operate it

Flexibility

QAD Cloud ERP’s architecture allows customers tremendous flexibility and many deployment options:

Deployment portability — Move from on premise to QAD Cloud ERP or back easily

Deployment independence and blended deployment — Combine on premise and QAD Cloud ERP to work together in the same environment

High availability — Greater than 99.5 percent availability — better than the availability of most in-house systems
Accessibility

- **Globally accessible** — Accessible from most places in the world
- **HTML5 User Experience** — QAD Channel Islands UX, through the Web UI and Mobile UI, lets you access with any browser or device; support for native mobile devices for some processes in QAD Cloud ERP like approvals.
- **High Reliability** — Greater than 99.5 percent uptime

Low Risk ERP with Security and Control

QAD Cloud ERP has a lower risk profile than typical in-house systems and provides data security and system reliability at levels well beyond those a customer’s own IT resources can typically provide.

- **SSAE16 SOC I Type II documented** — Data centers certified to the highest international standard
- **Disaster Recovery** — Option for fast recovery and restart in case of a disaster
- **ISO certified organization** — Quality accredited organization and business processes
- **Low risk** — No risks due to inability to retain skills or the need to hire or train someone to support the application.

Predictability

QAD Cloud ERP customers can count on their ERP systems to be there whenever they need them. Truly no Headache, No Hardware, No Hassle ERP

- **Predictable costs** — Easy to calculate since the cost of the user count, storage requirements and additional elements are known. No unexpected expenses.
- **High Reliability** — Greater than 99.5 percent uptime

Simplicity

A key benefit of QAD Cloud ERP is its simplicity. No worries about mundane tasks like backups or complex tasks like disaster recovery plans.

- **Simple to deploy** — QAD Easy On Boarding makes deployment fast and easy
- **Simple to convert** — Prepackaged conversion services make it simple
- **Simple to learn and use** — Intuitive user interface and online training make it simple to learn
- **Full-strength ERP** — All the capabilities that major manufacturers need
QAD Cloud ERP Editions

**Discrete Manufacturing Edition** — This edition suits the needs of most discrete manufacturers with or without global operations and include core modules of QAD Enterprise Applications on-premise.

**QAD Cloud ERP Life Sciences Edition** — Provides the same capabilities as the Discrete Manufacturing Edition, and includes a qualified environment if deployed from our QAD Cloud Denver data center.

A qualified environment means an auditor who is an expert in current Good Manufacturing Practices (cGMP) from the U.S. FDA reviewed our operating procedures and protocols and wrote a letter certifying that the environment complies with the needs of a Life Sciences company per FDA requirements and current good manufacturing practice rules (cGMP). This qualification may allow life sciences companies to rely on QAD’s qualification rather than conducting their own review and documenting operation of the data center, saving considerable time and effort for validation. However, the conversion from On-premise or a net new will require an initial customer validation.

**QAD Cloud ERP Automotive Edition** — Provides the same capabilities as the Discrete Manufacturing Edition and includes a suite of process maps to support Materials Management Operational Guideline/Logistics Evaluation (MMOG/LE).
## QAD Cloud ERP Capabilities

<table>
<thead>
<tr>
<th>Enterprise Financials</th>
<th>General Ledger</th>
<th>Accounts Receivable</th>
<th>Accounts Payable</th>
<th>Fixed Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Budgeting</td>
<td>Governance, Risk &amp; Compliance</td>
<td>Consolisations</td>
<td>Financial Analysis</td>
</tr>
<tr>
<td></td>
<td>Internationalization</td>
<td>Banking / Cash Management</td>
<td>Credit Management</td>
<td></td>
</tr>
</tbody>
</table>

| Customer Management | | | |
|---------------------|----------------|-----------------|
| Sales Quotations    | Sales Orders   | Logistics       |
| Customer Consignment| Configurator   | Pricing         |

<table>
<thead>
<tr>
<th>Manufacturing</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Data Management</td>
<td>Manufacturing Planning</td>
<td>Manufacturing Execution</td>
</tr>
<tr>
<td>Lean</td>
<td>Production Scheduler</td>
<td>Manufacturing Quality</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enterprise Asset Management</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Projects</td>
<td>Plant Maintenance</td>
<td>MRO Management</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supply Chain</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing</td>
<td>Supplier Performance</td>
<td>Supplier Quality</td>
</tr>
<tr>
<td>Supplier Consignment</td>
<td>Release Management</td>
<td>Supply Chain Planning</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Service &amp; Support</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Service &amp; Support Management</td>
<td>Mobile Field Service</td>
<td>Field Service Scheduler</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analytics</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Browse &amp; Reporting Framework</td>
<td>Operational Metrics</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interoperability</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>QXtend</td>
<td>EDI eCommerce</td>
<td></td>
</tr>
</tbody>
</table>

## Bundle Notes
- The bundle does not include EE Bank Drivers or EE Country Packages.
- Q-Xtend is included, but additional services fees may apply for design/build of custom interfaces.
- Excelerator is included, but must be deployed locally, and the license for Microsoft Excel must be purchased separately.
- EDI eCommerce is included, but “QAD Cloud EDI” is not, and must be purchased separately.
- QAD Enterprise Asset Management version supported is 12+ (i.e. the version that does not require Active X).
- The fact that a module is part of the Cloud ERP Bundle does not guarantee that all modules will be available for all QAD software releases and in all languages.
Data Storage
QAD Cloud ERP data storage varies by customer classification (A, B or C). Check with your cloud consultant for specific information.

QAD Cloud ERP Services

Services Available with QAD Cloud ERP

As part of the QAD Cloud ERP offering, QAD provides multiple service elements.

Service Management
As part of the QAD Enterprise Cloud service, QAD manages the system for the customer. Defining the contacts and roles at the customer is a key element in performing these tasks, allowing QAD to route issue escalations to the correct person and ensuring that the correct individuals receive system performance reports in accordance with the Service Level Agreement (SLA).

QAD assigns a QAD Cloud ERP client services manager within the QAD Cloud ERP operations group to each account at the time of initial implementation.

Service Level Reporting — QAD provides a monthly report of application performance compared to the Service Level Agreement.

The QAD Enterprise Cloud is extremely reliable. QAD offers a minimum committed availability of 99.5 percent in our standard Service Level Agreement (SLA). Availability is a measurement of the time that the application is available for use. The percentage in our SLA refers to the percentage of time the application is available as a proportion of all time less scheduled maintenance events per month. Customer’s designated contacts receive notification of all scheduled maintenance events and other scheduled outages in advance.

Upgrade Planning — We expect to upgrade environments of QAD Cloud ERP to the latest releases of QAD Enterprise Applications within one year of general availability. QAD and the customer mutually agree to upgrade timing, usually resulting in an annual upgrade.

When upgrading, QAD creates an image of the client data on the latest version of QAD enterprise applications in their development environment and then moves it to their test environment. The client may take up to three months to test before the final upgrade in their production environment occurs. If the customer is not able to upgrade within this period, QAD will continue to support the customer’s deployment at an additional fee until the customer upgrades to the new environment. The customer’s subscription reverts to the standard fee after completion of the upgrade.
Operational Meetings — For customers with more than 35 users, the QAD Enterprise Cloud client services manager meets by telephone or in person with the person designated by the customer at least monthly to discuss budget, performance and support issues.

Infrastructure Management

Application Administration — QAD administers QAD Cloud ERP for the customer. These requests include day-to-day administrative requests such as printer set up, user accounts and similar tasks.

Systems Management

With QAD Cloud ERP, QAD manages the entire infrastructure except the network and desktop PCs. QAD manages the customer’s database, application and hardware.

Database and Systems Administration — QAD constantly monitors database and hardware performance. If any work is required, QAD may announce a scheduled maintenance event, giving the customer notice if there will be any outage.

Upgrades & Patches — QAD applies required patches and will upgrade the platform as part of the regular upgrade cycle. QAD operations plans upgrades with the customer as part of the Service Management program.

EDI Management

QAD provides a full end-to-end EDI solution for QAD Cloud ERP customers. QAD Cloud EDI provides EDI translation and communication, and QAD EDI eCommerce provides ERP integration. All EDI components require a service engagement.
EDI mapping for all major EDI standards, along with the most common non-EDI formats, such as XML, csv or flat files.

EDI connectivity most Trading Partners

VAN interconnection with major VANs, including:
- GXS
- Covisint
- Sterling Commerce
- IBM
- Inovis
- Indra
- Intesa
- Easylink (AT&T)
- BT
- Infonet
- T-Systems
- EDS
- Azertia
- Telefonica
- EDIServ
- Multilateral
- Map
- BT EDI*Net

Direct TP connections through the most common protocols
- OFTP
- OFTP2
- AS2
- HTTP
- FTP
- SFTP
- SMTP
- X.400
- Connectivity to ENX and ANX through a TCP/IP connection

QAD Cloud EDI is the standard offering for QAD Cloud ERP EDI translation and communication.

Reps should escalate exceptions to the standard offering because of existing contracts between the customer and other VAN Service providers to the Cloud Steering Committee for approval.

**QAD Extended Solution Services (ESS) for EDI eCommerce**

This optional service provides extended services for EDI eCommerce that with QAD Cloud EDI provides a fully managed EDI environment for those customers who wish to outsource their EDI operations completely.

QAD can tailor services for EDI eCommerce to fit each customer’s needs, internal EDI expertise and other factors. QAD ESS provides specific pricing for this service depending on requirements.

The different components of this service are:

**Trading partner management** — Optional service covering maintenance and implementation of any changes requested by the customer’s trading partners.
includes maintenance of QAD EDI eCommerce transformations for any adjustments required to accommodate change requests initiated by the trading partner.

**Operational support help desk** — A recommended option that provides the broadest level of service, representing a full end-to-end service model with complete support and troubleshooting coverage.

**Proactive daily monitoring** — A recommended option that provides daily EDI transaction monitoring for early discovery of potential EDI issues. This service is especially useful to organizations with limited resources or EDI knowledge.

**Supplier Onboarding** — A recommended option that extends the level of service to the supplier community, providing technical point of contact for supplier EDI issues and for onboarding of additional suppliers.

**Customization Management**

QAD Cloud ERP customers will sometimes need to make changes to the software to meet their needs precisely. Changes to the QAD Cloud ERP environment are usually either personalization or customization changes.

When QAD, a partner, a third party or the customer makes programming or database changes, there is a cost to perform, install and support the customization. As a rule, we should encourage customers to use the strong personalization capabilities in QAD Enterprise Applications before changing the software code.

**Personalization**

In QAD Cloud ERP environments, we emphasize personalization, which enables tailoring reports, browse and screen configuration without changing underlying programs. We expect that the personalization capabilities will be adequate to enable most companies to tune QAD Cloud ERP to their specific needs.

QAD considers the following items personalization that may be changed by the customer or third parties:

- Browses and reports, using the built in Browse and Report Framework
- Field screen location
- New fields and validations
- Menus
- Process Maps
- Operational Metrics

**Customization**

Customization requiring changes to standard programs or database tables requires a higher level of oversight. QAD can provide these customizations, or the customer may have them done by a qualified individual and then checked by QAD.
QAD’s Vertical Segment Focus

QAD focuses on developing solutions and services to meet the requirements of six main manufacturing vertical segments. These include Automotive, Life Sciences, Industrial, High-Tech, Consumer Products, and Food and Beverage. Within each of these verticals, we have identified 24 additional key vertical segments as areas of focus including automotive tier suppliers, medical device manufacturers, contract manufacturers, flexible packaging producers as well as manufacturers of consumer electronics.

QAD collaborates with leading global manufacturers to ensure we align our solutions to changing industry trends and requirements. QAD participates in many industry groups to ensure that we address regulatory compliance issues, embrace new manufacturing practices, evaluate emerging technologies and provide innovative solutions that maximize our customer’s competitive advantages.

QAD Enterprise Applications enables leading global manufacturers to meet business goals and more effectively manage their business by providing:

- Manufacturing solutions that allow our customers to become effective enterprises
- Supply chain solutions that enhance collaboration with suppliers and customers
- Customer management solutions that significantly improve customer relationships
- Financial applications that meet global and regulatory reporting requirements and improve operational efficiency

QAD delivers its solutions in the cloud and on premise, enabling deployment whenever and wherever needed.
QAD in Automotive

QAD solutions are in use at most of the market-leading automotive parts companies throughout the world. Our customers include OEMs, part suppliers and aftermarket providers. QAD Enterprise Applications allow quick implementations and provide cost-effective support for changing business demands.

QAD’s Automotive Edition provides suppliers and sub-suppliers globally with the right solution to balance demand and supply while reducing inventory, meeting stringent quality standards and demanding delivery schedules.

Automotive Key Issues

Automotive suppliers face strategic shifts driven by global growth in automobile sales and the accelerating introduction of new automotive technology. These trends result in increased consolidation in the automotive supplier segment, the need to keep up with rapidly developing innovations and persistent downward pressure on cost. To meet these challenges, automotive suppliers must maximize manufacturing efficiencies while maintaining high quality standards and improving supply chain management. Some specific challenges the solution addresses include:

Integrated supply chain management — Automotive suppliers must meet vigorous customer and industry requirements such as IATF 16949. The solution simplifies meeting such requirements and helps manufacturers extend to lower tier suppliers for increased collaboration and visibility into supply chain issues. Related analytics help monitor supply chain performance through flexible built-in metrics, role-specific operational dashboards and advanced analytics using multiple data sources.

Alignment with industry best practice — QAD’s solution derives from a long-standing history of close engagement with automotive customers, global industry standards organizations and OEMs. For example, QAD has been a member of the global AIAG/Odette MMOG/LE Work Group for 13 years and is an approved MMOG/LE trainer for AIAG and Odette in North America, Asia-Pacific and Eastern Europe. The solution directly supports MMOG/LE, helping organizations achieve Level A classification to optimize operations and gain preferred supplier status.

Adapting to changing regulatory and industry requirements — The ability to quickly meet shifting internationalization regulatory requirements and adapt to structural changes in the industry, including mergers, acquisitions and divestitures, are essential to automotive suppliers’ long-term success. QAD’s product and service offering supports compliance in the areas of quality, delivery and financial accounting practices. QAD Cloud ERP Automotive Edition is a full-featured solution with integrated automotive-specific processes based on industry requirements and built-in best practices. When combined with QAD’s Easy-On-Boarding process, QAD Cloud ERP can be quickly deployed anywhere in the world.
Automotive Value Chain

QAD tailors its solutions to address the automotive value chain, including OEMs, multiple supplier tiers and aftermarket providers.

Automotive Segments

Automotive Suppliers: QAD provides solutions to the global automotive supplier community, including systems suppliers and all sub-tiers. QAD develops its solution with the input and guidance of its key industry-leading customers.

Automotive Aftermarket: QAD provides solutions to manage the automotive aftermarket, including advanced sales forecasting, planning, warehouse management and logistics.

Automotive Functional Benefits

QAD’s automotive edition provides global suppliers with the right solution to balance demand and supply while reducing inventory, meeting demanding delivery schedules and stringent quality and delivery requirements.

QAD’s solution addresses most automotive industry business processes, including:

- Release Management
- Materials Management Operations Guideline/Logistics Evaluation (MMOG/LE)

- Supplier Scheduling and Management
- Lean Manufacturing
- EDI/Web
• Supplier Performance
• Quality Management/IATF 16949
• Traceability
• Delivery Performance
  • Engineering Change
  • Automation Solutions – Shop Floor Data Collection and Label Printing
• Demand and Supply Chain Planning
• Transportation Management/Shipment Execution
• Risk Management

The process map below demonstrates the breadth of QAD’s automotive industry offering.

**QAD Manufacturing in Automotive**

Reduce costs and increase throughput using QAD Enterprise Applications to plan, schedule and track products:

**Planning and Scheduling Workbenches:** Provides simple, visual manipulation of the master schedule and planned production. Planners can schedule production to meet demand more effectively and act when problems are imminent.

**Manufacturing Planning:** Includes fully integrated MPS and MRP and supports all production control methods such as repetitive, discrete and mixed-mode environments. Allows for simple adoption of tactical plans to meet and exceed customer expectations and changing demands.
Repetitive Manufacturing: Provides high-volume, repetitive scheduling across multiple production lines, even sharing the same resources used by discrete items controlled with work orders, including full support of serialization.

Lean Manufacturing: Supports companies adopting lean principles; QAD’s integrated Lean Manufacturing supports Kanban, TAKT time calculations and visual control methods.

Just-In-Time Scheduling: Allows customers to make in-line sequenced vehicle components to deliver to schedules broadcast by the OEM.

Automation Solutions: Provides integration to various data capture technologies, including RFID and bar coding for real-time transaction capture and validation of scanned data, eliminating manual data entry.

Quality Management System: Provides full support for IATF 16949 including risk management critical to automotive parts suppliers.

Capital Projects: Supports the financial aspects of project management, including reporting throughout the process and capitalization on completions.

Product Genealogy: Provides history from finished goods back to the supplier’s lot. Adds extensive lot/serial trace and reporting functions to work-in-process (WIP) and generates tracing information at the operation level whenever the company uses registered resources.

Outsourcing/Subcontracting: Tracks financial obligations and the flow of materials, allowing seamless control of outsourced production as though it were a part of one production schedule.

Data Capture: Captures material and production data, and prints labels according to manufacturer, supplier and/or customer formats to improve material transaction effectiveness.

Enterprise Asset Management: Supports all plant maintenance activities, including preventive maintenance and predictive management, work orders and service requests to ensure equipment is reliable and ready to go at all times, and compliance with regulatory mandates regarding product safety and cleanliness standards.

Product Change Control: Provides control and improves information audit throughout QAD Enterprise Applications.

QAD Customer Management in Automotive

Respond more quickly to customers by providing the right products at the right time and at the right cost:

Release Management: Provides integration into customer schedules — cumulative schedule-based (Cum) or net-based — directly into QAD Enterprise Applications. Handles sequenced scheduling and links details (Kanban, Drop Zones, etc.) to specific scheduled release lines.
Sales Orders: Supports order entry, tracking and reporting order status and inventory allocations in both centralized and decentralized mode. It also allows customer service representatives (CSRs) to configure the process to match the company business processes.

Shipment Performance: Continuously monitors shipments and tracks performance against industry metrics, including DIFOT (Delivery in Full, On Time).

Sales Quotations: Supports management of sales quotations for tracking and conversion to sales orders.

QAD Supply Chain in Automotive

Gain ROI and improve supply chain management by increasing supplier visibility:

Supplier Portal: Collaborative portal communicates demand changes in real time and tracks the flow of orders and shipments using ASNs.

Customer/Supplier Release Comparison Reports: Provides demand trend analysis which can help determine if demand contract agreements have been met.

Supplier Milk Run: Supports reducing freight and planning costs by enabling automation and optimization of the truckload planning process and align procurement to production needs.

Supplier Time Windows: Levels production between daily deliveries, which improves inventory management.

Demand and Supply Chain Planning: Provides the ability to effectively optimize, analyze, simulate, collaborate, understand and ultimately plan all supply chain activities.

Transportation Management System: Provides a complete set of tools to optimize shipments by air, sea, parcel, truckload or less than truckload; provides international documentation and assists in compliance with denied party regulations.

Managed EDI: Enables simple global e-commerce and collaboration with trading partners across the value chain.

EDI eCommerce: Gateway and mapping tool to support multiple EDI documents and multiple standards (EDIFACT, ANSI .X12, etc.). Validates and monitors transactions to ensure effective collaboration.

Outsourcing/Subcontracting: Tracks financial obligations and the flow of materials, allowing seamless control of outsourced production as though it were a part of one production schedule.

Supplier Performance: Monitors and reports supplier performance against defined metrics and key indicators, enabling constant monitoring and dialog with suppliers about quality and performance.

Warehousing: Manages complex warehouses, high volume picking and fulfillment, and complex space management.
Logistics Accounting: Allows users to track and monitor freight costs and financial transactions by accrual and recovery of freight charges for delayed or missing invoices, critical to costing items accurately when freight invoices may lag the material invoice.

Consignment Inventory: Manages and tracks consigned inventory received from suppliers in a Vendor Managed Inventory (VMI) model or sent to customers—from receipt to inventory to consumption—and creates triggers for payment processing.

Container and Line Charges: Tracks and invoices customers for different types of shipping containers or for extra line charges, including adding charges at the line-item level or during the shipping process.

QAD Financials in Automotive

Increase fiscal control and comply with industry mandates:

Centralized or Decentralized Operations: Includes fully internationalized shared services; support for multiple languages, transactions and reporting in any currency; multiple accounting calendars and charts of accounts.


Configuration Cost and Pricing: Automatically calculates prices for configurations, ensuring that margins remain strong and that customers experience fewer errors. Automatically calculates costs to ensure accurate profit calculations.

Enhanced Controls: Provides strict enforcement of the authenticity, integrity, auditing and confidentiality of electronic records and supports eSignature.

Evaluated Receipts Settlement (ERS): Records liabilities automatically based on quantities received at the unit price negotiated with the supplier in a purchase agreement.

Accounts Receivable Self-Billing: Supports self-billing invoice transactions at customer/sales order level resulting in minimal need for manual reconciliation.

Retro Billing: Allows customer and supplier invoices for price changes on shipped items originally invoiced at a different price.

Cost Management: Provides multiple user-defined cost sets and elements for simulations and analysis, supports cost by location and supports multiple cost methods in parallel.
QAD in Life Sciences

QAD Enterprise Applications is a full-featured software solution that enhances customers' ability to become effective enterprises by addressing many business challenges of a life sciences company.

QAD has a proven record of providing solutions to global life sciences manufacturers operating in Good Manufacturing Practice (GMP)-regulated environments, with nearly 500 sites live in over 62 countries.

Companies ranging from startups to multinationals enjoy the simplicity, reliability and performance that QAD delivers.

Life Sciences Key Issues

Compliance with global regulations: Life sciences manufacturers operate under some of the most stringent regulations of any industry in the world. Good Manufacturing Practices (GMP) regulations carry the weight of law and require that manufacturers take steps to ensure their products are safe and effective.

QAD provides tools to help ensure regulatory compliance by automating key functions, thereby eliminating opportunities for error and providing documented evidence of procedural steps taken.

New product introduction: Device manufacturers are under pressure to remain innovative and responsive to a rapidly changing industry. Trends are toward less invasive devices and increasing physician demands for product solution configurations and options.

QAD Enterprise Applications provides the tools needed to manage resources and contain costs across all phases from discovery and development to marketing and manufacturing.

Operational challenges: Life sciences companies often carry very high levels of finished goods inventory to avoid “stock out” situations. In addition, challenges include low utilization of all available capacity, missed or incomplete delivery commitments and high SG&A costs. All of this contributes to generally poor operational metrics when compared with other industries.

QAD solutions are purpose-built for life sciences manufacturers and incorporate demand planning, supply chain planning, quality management and a full complement of related financial/accounting capabilities to address operational concerns.

Life Sciences Value Chain

Life sciences manufacturers have complex value chains, usually incorporating wholesalers and distributors, contract manufacturers, group purchasing organizations, care providers and even retail channels.
Life Sciences Segments

QAD solutions are used extensively by Medical Device, Pharmaceutical, and Biotechnology customers. Although these industries are similar from a regulatory perspective, there are differences in their manufacturing processes, business environments and commercial practices. The list below shows some of the life sciences segments where QAD has extensive experience.

**Surgical and Orthopedic Device Manufacturers:** These manufacturers produce products such as surgical sutures, electrosurgical devices or implantable devices like artificial knees or arterial repair stent graft systems. Hospitals and physicians increasingly expect manufacturers of these devices to provide a variety of kitting and solutions options that shorten surgery times, increase operating room efficiency and improve patient outcomes and many are tied to reimbursement.

**Contract Manufacturing (CMOs):** Are a subset of the larger pharmaceutical and biotech industry and require the ability to manage multiple customer demands regarding scale-up, cycle times, reduced batch sizes and IT and reporting requirements, all while meeting complex and expanding global regulatory requirements.

**Medical Device Diagnostics:** QAD’s focus in the diagnostics industry is on companies who manufacture complex, capital equipment like scanners, molecular imaging, or DNA analysis equipment used for diagnosis of disease or conditions. This equipment is often sold or leased, and the reagent consumables are sold separately for diagnosis. Diagnostics manufacturers are facing a number of challenges including the requirement to develop new technology, produce innovative assays and keep pace with rapidly changing clinical trends.

**Pharma/Biotech:** The pharmaceutical industry encompasses a wide range of enterprises including large ethical drug multi-nationals, mid-sized specialty
pharmaceutical companies, generic manufacturers, virtual pharmas, small biotechnology and biopharmaceutical firms, and various adjacent companies that provide contract research, regulatory guidance, contract sales, and manufacturing technologies and raw materials.

**Life Sciences Functional Benefits**

QAD life sciences edition provides a suite of tools to drive greater operational performance while complying with Current Good Manufacturing Practices (cGMP). Solutions include advanced controls, audit trails and eSignatures. In addition, QAD supports critical quality system requirements including corrective action/preventive action (CAPA), Non-Conformance (NCR) and complaint management.

QAD Enterprise Applications solution addresses most aspects of a life sciences company’s business processes, including:

- Direct and Contract Manufacturing
- CFR 21 Part 11, Annex 11 and computer systems validation support
- Quality Management/ISO 13485
- Serialization Support for Global Regulations (DQSA, FMD, UDI)
- Forward & Backward Lot/Serial Tracking for Recall Management
- WIP Lot Trace
- Product Genealogy
- EDI/Web
- Transportation Management
- Customer Self Service and Support
- Shop Floor Data Collection and Label Printing – Automation Solutions
- Engineering Change Control
- Contracts, Promotions and Rebates
- Demand and Supply Chain Planning
- Supply Chain Portal
- Warehouse Management
- Distribution Planning
- Risk Management
- Configuration Management
The process map below demonstrates the breadth of QAD's life sciences offering.

QAD Manufacturing in Life Sciences

Reduce costs and increase throughput using QAD Enterprise Applications to plan, schedule and track products:

**Master and Production Scheduling Workbenches:** Provides simple, visual manipulation of the master schedule and planned production. Planners can schedule production to meet demand more effectively and act when problems are imminent.

**Manufacturing Planning:** Includes fully integrated MPS and MRP and supports all production control methods such as repetitive, discrete and mixed-mode environments. Allows for simple adoption of tactical plans to meet and exceed customer expectations and changing demands.

**Repetitive Manufacturing:** Provides high-volume, repetitive scheduling across multiple production lines, even sharing the same resources used by discrete items controlled with work orders, including full support of serialization.

**Lean Manufacturing:** Supports companies adopting lean principles; QAD’s integrated Lean Manufacturing supports Kanban, TAKT time calculations and visual control methods. This makes lean adoption finally feasible for regulated manufacturers in the life sciences market.

**Computer System Validation:** Detailed scripts and supporting services delivered by partners enable companies to meet regulatory audits against Current Good Manufacturing Practices (cGMP). QAD Life Sciences Edition Cloud ERP is delivered on an FDA qualified environment, significantly shortening the effort and time for customers to validate the system.
Serialization: Supports regulatory compliance for regulations like DQSA, FMD and UDI. QAD Serialization offers aggregated product serialization on pallet, shipper, case and unit levels as well as serial number management, packing/unpacking and full-serialized inventory management.

Automation Solutions: Provides integration to various data capture technologies, including RFID and bar coding for real-time transaction capture and validation of scanned data, eliminating manual data entry.

Quality Management System: Supports global GMP quality requirements from simple automation of key functions to full EQMS capability including support for ISO13485:2016. Solutions include document management, training management, supplier management, QC inspection of raw materials, WIP inventory and finished goods, CAPA and NCR reporting, complaint handling and adverse event reporting.

Capital Projects: Supports the financial aspects of project management, including reporting throughout the process and capitalization on completions.

Full Lot Traceability / Product Genealogy: Provides history from finished goods back to the supplier’s lot. Adds extensive lot/serial trace and reporting functions to work-in-process (WIP) and generates tracing information at the operation level whenever the company uses registered resources.

Outsourcing/Subcontracting: Tracks financial obligations and the flow of materials, allowing seamless control of outsourced production as though it were a part of one production schedule.

Compliance Management: Provides critical manufacturing controls at the batch level, including the ability to track additional item and work order attributes and key batch dates. This solution also provides the ability to manage controlled substances, track DEA and other regulatory agency licenses, support controls required by Current Good Manufacturing Practices (cGMP) and provide for the use of eSignatures.

Enterprise Asset Management: Supports all plant maintenance activities, including preventive maintenance and predictive management, work orders and service requests to ensure equipment is reliable and ready to go at all times, and compliance with regulatory mandates regarding product safety and cleanliness standards.

Product Change Control: Provides control and improves information audit throughout QAD Enterprise Applications.

Attribute & Characteristic Management with Multiple Units of Measure: Assists in tracking additional item information at various levels of detail, such as lot, pallet, case, sub-case and volume. Also includes functionality to track product using multiple units of measure.

QAD Customer Management in Life Sciences

Respond more quickly to customers by providing the right products at the right time and at the right cost:

Customer Relationship Management (CRM): Provides a fully functional sales and marketing automation toolset designed to improve sales and marketing productivity,
including communications and scheduling tools, pipeline and forecast management and customer service.

**Sales Orders:** Supports order entry, tracking and reporting order status and inventory allocations in both centralized and decentralized mode. It also allows customer service representatives (CSRs) to configure the process to match the company business processes.

**Customer Self Service (CSS):** Provides a web storefront for self-service sales transactions and inquiries that enable suppliers to automatically take orders while reducing processing cost and time to deliver, and with a higher degree of accuracy.

**Configurator:** QAD’s complete rules-based product configuration suite supports configurations from quoting and order entry all the way through production planning, shop floor control, serialization, order fulfillment and after-sale service and support.

**Sales Quotations:** Supports management of sales quotations for tracking and conversion to sales orders.

**Shipment Performance:** Continuously monitors shipments and tracks performance against industry metrics, including DIFOT (Delivery in Full, On Time).

**Service & Support Management:** Manages installation, ongoing support, maintenance and repair of products including coverage by warranty or service contracts and tracks engineering resources.

**Mobile Field Service:** PC-based application that allows field engineers to log in remotely to record activities from a customer site, driving improved customer service and field productivity.

**QAD Supply Chain in Life Sciences**

Gain ROI and improve supply chain management by increasing supplier visibility:

**Demand and Supply Chain Planning:** Advanced tools to build and manage forecasts, either collaboratively or individually, based on mathematical models that utilize demand history and incorporate seasonal effects.

**Supply Chain Portal:** Collaborative portal communicates demand changes in real time and tracks the flow of orders and shipments using ASNs.

**Purchasing:** A comprehensive procurement and strategic sourcing tool, fully integrated with planning that provides sophisticated pricing across contracts and individual and blanket orders.

**Transportation Management:** Provides a complete set of tools to optimize shipments by air, sea, parcel, truckload or less than truckload; provides international documentation and assists in compliance with denied party regulations.

**EDI:** Gateway and mapping tool to support multiple EDI documents and multiple standards (EDIFACT, ANSI .X12, etc.). Validates and monitors transactions to ensure effective collaboration.
**Supplier Performance:** Monitors and reports supplier performance against defined metrics and key indicators, enabling constant monitoring and dialog with suppliers about quality and performance.

**Warehousing:** For larger or more sophisticated warehouses, provides automated task management, RF based picking, wave management, batch picking, location find/audit, put-away, picking, cross docking, quality control, replenishment, transfers and advanced cycle counting activities, including full support for global inventory views in multiple physical warehouses across multiple domains.

**Logistics Accounting:** Allows users to track and monitor freight costs and financial transactions by accrual and recovery of freight charges for delayed or missing invoices, critical to costing items accurately when freight invoices may lag the material invoice.

**Consignment:** Manages and tracks consigned inventory received from suppliers in a Vendor Managed Inventory (VMI) model or sent to customers from—receipt to inventory to consumption—and creates triggers for payment processing.

**Container Management:** Tracks and invoices customers for different types of shipping containers or for extra line charges, including adding charges at the line-item level or during the shipping process.

**Returned Goods Management (RMAs):** Generates invoices or credits for returns and exchanged goods processing.

**QAD Financials in Life Sciences**

Increase fiscal control and comply with industry mandates:

- **Centralized or Decentralized Operations:** Includes fully internationalized shared services; support for multiple languages, transactions and reporting in any currency; multiple accounting calendars and charts of accounts.

- **Global Reporting:** Provides multi-GAAP reporting of financial statements and multiple sets of books, which simplifies compliance with emerging treatments and standards, like International Financial Reporting Standards (IFRS).

- **Configuration Cost and Pricing:** Automatically calculates prices for configurations, ensuring that margins remain strong and that customers experience fewer errors. Automatically calculates costs to ensure accurate profit calculations.

- **Enhanced Controls:** Provides strict enforcement of the authenticity, integrity, auditing and confidentiality of electronic records and supports eSignature.

This supports the needs of the United States Food & Drugs Administration (US FDA) with Code of Federal Regulation 21 Part 11 (21CFR11).

- **Accounts Receivable Self-Billing:** Processes customer-initiated payments by recording documents and applying payment credit to accounts receivable based on the line-item shipper details.

- **Retro Billing:** Allows invoicing a customer for price changes on shipped items originally invoiced at a different price.
**Cost Management**: Provides multiple user-defined cost sets and elements for simulations and analysis, supports cost by location and supports multiple cost methods in parallel.
QAD in High Tech

The success of high tech manufacturers relies on innovation and the ability to manage change. There is constant pressure on margins, fluidity to global supply chains, challenges with cross border shipments, strains on material availability and imperatives around controlling cost. All these challenges need to be met while complying with standards and industry regulations.

High Tech Product Manufacturing Key Issues

Creating innovation, customization, new products, value-add and competitive differentiation: High tech product manufacturers face extreme competitive pressures. Customization has become the rule versus the exception. Make to order is the standard delivery mechanism. Introducing innovative new products quickly can mean the difference between a market leader and an unprofitable entry.

Managing product revisions: High tech products are typically electro-mechanical with native intelligence. This requires version tracking of both the physical hardware and the firmware or software that is present at time of manufacturing. The firmware may be field upgradeable and that further complicates revision tracking.

Component handling and inventory management: High tech products are typically an assembly that consists of many small electronic components. These components are relatively delicate and require special handling. These components are also subject to constant revisions from the suppliers which challenges both material planning and procurement groups to maintain viable component inventory.

Managing variable demand: The ability to react to commercial events is essential to profitability and delivery performance. Product variations and short product life cycles increase the challenge. QAD systems support collaboration and visibility with trading partners.

High Tech Value Chain

The value chain for high tech products can be very complex with both hardware and firmware revision tracking and management.
High Tech Segments

High Tech products exist in virtually every manufacturing industry, from industrial equipment to medical devices to high-tech test equipment. Some specific examples within QAD’s focus verticals include:

**Electronic Componentry:** QAD has a set of successful implementations supporting a wide set of electronic component manufacturing. These manufacturers include the production of the following:
- sub-board electronics such as antennas and electrical components
- leaders in the production of industrial batteries and customized power supplies
- producers of advanced cable and wiring assemblies

**Network / Computing / Printed Circuit boards:** QAD has a set of successful implementations supporting a wide set of electronic sub-assembly manufacturing. These manufacturers include the B2B production of industrialized computing devices used in advanced industrial and infrastructure applications.

**Commercial Off the Shelf (COTS) System Elements** QAD has a set of successful implementations for manufacturers of COTS system elements. These products are self-contained but become a part of an engineered system in the form of complex machinery or large industrial engineered skids. QAD customers include manufacturers of sensors, control devices and electrical transmission/distribution equipment.

**Standalone Devices / Test Equipment Manufacturers:** Complex assemblies require QAD Enterprise Applications to support the manufacturing process as well as the flexible distribution channels that include large aftermarket opportunities. QAD Product Configurator allows mass customization, while QAD Service and Support addresses post-sale service and warranty tracking needs.

High Tech Functional Benefits

QAD is committed to developing solutions that enable our customers in the high tech industry to become effective enterprises and accelerate communication throughout the supply chain.

QAD’s solution addresses all aspects of a high tech company’s processes, including:

- Lean Manufacturing
- Enterprise Asset Management
- Engineering Change Control
- Transportation Management
- Demand and Supply Chain Planning
- Quality Management Systems
- Supplier Management
- Configuration Management
- Direct and Contract Manufacturing
- Sales and Service Support
- Packaging
- Customer Self Service
- Distribution Network Management
- Electronic Data Interchange
The process map below reflects the breadth of QAD’s high tech offering.

### QAD Manufacturing in High Tech

Reduce costs and increase throughput using QAD Enterprise Applications to plan, schedule and track products:

**Master and Production Scheduling Workbenches**: Provides simple, visual manipulation of the master schedule and planned production. Planners can schedule production to meet demand more effectively and act when problems are imminent.

**Integrated Repetitive and Work Order Manufacturing**: Provides high-volume repetitive scheduling in conjunction with detailed work order capability through production order process.

**Quality Management System**: Supports a vertically integrated approach to quality planning, quality execution, nonconformance management and quality reporting.

**Manufacturing Planning**: Includes fully integrated MPS and MRP and supports all production control methods such as repetitive, discrete and mixed-mode environments. Allows for simple adoption of tactical plans to meet and exceed customer expectations and changing demands.

**Repetitive Manufacturing**: Provides high-volume, repetitive scheduling across multiple production lines, even sharing the same resources used by discrete items controlled with work orders, including full support of serialization.
Lean Manufacturing: Supports companies adopting lean principles; QAD’s integrated Lean Manufacturing supports Kanban, TAKT time calculations and visual control methods.

Configurator: QAD’s complete rules-based product configuration suite supports configurations from quoting and order entry all the way through production planning, shop floor control, serialization, order fulfillment and after-sale service and support.

Automation Solutions: Provides integration to various data capture technologies, including RFID and bar coding for real-time transaction capture and validation of scanned data, eliminating manual data entry.

Capital Projects: Supports the financial aspects of project management, including reporting throughout the process and capitalization on completions.

Full Lot Traceability: Provides history from finished goods back to the supplier’s lot. Adds extensive lot/serial trace and reporting functions to work-in-process (WIP) and generates tracing information at the operation level whenever the company uses registered resources.

Serialization: Supports regulatory compliance for aggregated product serialization on pallet, shipper, case and unit levels. QAD Serialization offers serial number management, packing/unpacking and full-serialized inventory management.

Outsourcing/Subcontracting: Tracks financial obligations and the flow of materials, allowing seamless control of outsourced production as though it were a part of one production schedule.

Enterprise Asset Management: Supports all plant maintenance activities, including preventive maintenance and predictive management, work orders and service requests to ensure equipment is reliable and ready to go at all times, and compliance with regulatory mandates regarding product safety and cleanliness standards.

Master Data Management: Provides capabilities for tracking part numbers, bill of materials (BOM), routings and work centers, and integrates to Product Change Control (PCC) or Product Lifecycle Management (PLM).

Product Change Control: Provides control and improves information audit throughout QAD Enterprise Applications.

QAD Customer Management in High Tech

Respond more quickly to customers by providing the right products at the right time and at the right cost:

Customer Relationship Management (CRM): Provides a fully functional sales and marketing automation toolset designed to improve sales and marketing productivity, including communications and scheduling tools, pipeline and forecast management and customer service.

Sales Orders: Supports order entry, tracking and reporting order status and inventory allocations in both centralized and decentralized mode. It also allows customer service
representatives (CSRs) to configure the process to match the company business processes.

**Customer Self Service (CSS):** Provides a web storefront for self-service sales transactions and inquiries that enable suppliers to automatically take orders while reducing processing cost and time to deliver, and with a higher degree of accuracy.

**Configurator:** QAD’s complete rules-based product configuration suite supports configurations from quoting and order entry all the way through production planning, shop floor control, serialization, order fulfillment and after-sale service and support.

**Sales Quotations:** Supports management of sales quotations for tracking and conversion to sales orders.

**Shipment Performance:** Continuously monitors shipments and tracks performance against industry metrics, including DIFOT (Delivery in Full, On Time).

**Service & Support Management:** Manages installation, ongoing support, maintenance and repair of products including coverage by warranty or service contracts and tracks engineering resources.

**Mobile Field Service:** PC-based application that allows field engineers to log in remotely to record activities from a customer site, driving improved customer service and field productivity.

**QAD Supply Chain in High Tech**

Gain ROI and improve supply chain management by increasing supplier visibility:

**Demand and Supply Chain Planning:** Advanced tools to build and manage forecasts and plans, either collaboratively or individually, based on mathematical models that utilize demand and supply history and incorporate seasonal effects.

**Supplier Portal:** Collaborative portal communicates demand changes in real time and tracks the flow of orders and shipments using ASNs.

**Purchasing:** A comprehensive procurement and strategic sourcing tool, fully integrated with planning that provides sophisticated pricing across contracts and individual and blanket orders.

**Transportation Management:** Provides a complete set of tools to optimize shipments by air, sea, parcel, truckload or less than truckload; provides international documentation and assists in compliance with denied party regulations.

**EDI:** Gateway and mapping tool to support multiple EDI documents and multiple standards (EDIFACT, ANSI .X12, etc.). Validates and monitors transactions to ensure effective collaboration.

**Supplier Performance:** Monitors and reports supplier performance against defined metrics and key indicators, enabling constant monitoring and dialog with suppliers about quality and performance.
Warehousing: For larger or more sophisticated warehouses, provides automated task management, RF-based picking, wave management, batch picking, location find/audit, put-away, picking, cross docking, quality control, replenishment, transfers and advanced cycle counting activities, including full support for global inventory views in multiple physical warehouses across multiple domains.

Logistics Accounting: Allows users to track and monitor freight costs and financial transactions by accrual and recovery of freight charges for delayed or missing invoices, critical to costing items accurately when freight invoices may lag the material invoice.

Consignment: Manages and tracks consigned inventory received from suppliers in a Vendor Managed Inventory (VMI) model or sent to customers from—receipt to inventory to consumption—and creates triggers for payment processing.

Container Management: Tracks and invoices customers for different types of shipping containers or for extra line charges, including adding charges at the line-item level or during the shipping process.

QAD Financials in High Tech

Increase fiscal control and comply with industry mandates:

Centralized or Decentralized Operations: Includes fully internationalized shared services; support for multiple languages, transactions and reporting in any currency; multiple accounting calendars and charts of accounts.


Configuration Cost and Pricing: Automatically calculates prices for configurations, ensuring that margins remain strong and that customers experience fewer errors. Automatically calculates costs to ensure accurate profit calculations.

Enhanced Controls: Provides strict enforcement of the authenticity, integrity, auditing and confidentiality of electronic records and supports eSignature.

Evaluated Receipts Settlement (ERS): Records liabilities automatically based on quantities received at the unit price negotiated with the supplier in a purchase agreement.

Accounts Receivable Self-Billing: Processes customer-initiated payments by recording documents and applying payment credit to accounts receivable based on the line-item shipper details.

Retro Billing: Allows invoicing a customer for price changes on shipped items originally invoiced at a different price.

Cost Management: Provides multiple user-defined cost sets and elements for simulations and analysis, supports cost by location and supports multiple cost methods in parallel.
QAD in Industrial Manufacturing

QAD Enterprise Applications is a full-featured software solution that enhances customers' ability to become effective enterprises by addressing many business challenges of an industrial manufacturing company.

QAD helps companies address the challenges of managing product complexity, coping with volatility in raw material pricing and ensuring plant effectiveness to meet demanding customer delivery schedules.

QAD’s solution supports lean principles across both manufacturing operations and the supply chain to drive cost reductions, increase margins and improve customer satisfaction.

QAD Enterprise Applications embrace mixed modes of manufacturing in a single environment and support outsourced operations and off shoring, where required.

Key Issues in Industrial Manufacturing

Managing variable demand: The ability to react to events is essential to profitability and delivery performance. Product variations and short product life cycles increase the challenge.

QAD systems support collaboration and visibility with trading partners.

Support Lean principles: Customer responsiveness is dependent on eliminating manual intervention with improved automation and integration from quote to delivery.

QAD Enterprise supports lean functionality such as Kanban, TAKT time calculations, buffer management load leveling and pull signals.

Creating innovation, customization, new products, value-add and competitive differentiation: Industrial manufacturers face extreme competitive pressures. Customization has become the rule versus the exception. Make to order has become the standard delivery mechanism. Introducing innovative new products quickly can mean the difference between a market leader and an unprofitable entry.

QAD offers many tools to assist in product design – from multiple cost sets that enable tracking to target costs to full ECN tracking and approval.

QAD Product Configurator enables a quick and effective configure-to-order process, supporting complex and highly variable customer requirements.

Achieving fast and adaptable system implementation, low TCO for mature and emerging markets: Change is the new normal and companies cannot afford the luxury of long, drawn-out inflexible implementations.

QAD has the best record of accomplishment for fast ERP implementation. Our software and services reduce the risk of implementation.

QAD Easy On Boarding is an innovative method that reduces the risk and cost of upgrades and implementations while allowing for short project timelines.

© QAD Inc.
Industrial Manufacturing Value Chain

Discrete products manufacturers have complex value chains, often incorporating distributors, end customers and even retail channels. Regardless of the position in the value chain, QAD Enterprise Applications will meet the needs of industrial manufacturers.

Industrial Manufacturing Segments

Industrial manufacturing occurs in many market segments. Each segment varies—in accepted business processes, terminology and many other subtle ways. Experience makes a difference in understanding the unique nuances of an industry. The list below shows some of the industrial manufacturing segments where QAD has extensive experience.

Discrete Parts and Component Manufacturers: Discrete components range from catalog items to customized co-engineered products unique to a single customer. QAD addresses the various needs by providing flexible levels of quality tracking and certification support that match the range of requirements.

Engineered Material Manufacturers: Rolled laminates, metal / plastic piping and flexible packaging are a subset of highly engineered materials. QAD Enterprise Applications addresses the corresponding challenges associated with material management, customization and the collaboration necessary to optimize capacity.

Assemblies/Subassemblies Manufacturers: Both component and end product genealogy has become an imperative for the assembly environment. QAD serialization and lot tracking provides the foundation for this solution.
Standalone Industrial Equipment Manufacturers: Industrial machinery and equipment manufacturers sell custom products to end customers or standard products through dealer/distributor networks. QAD Enterprise Applications supports the flexible distribution channels this segment requires. QAD Product Configurator allows mass customization, while Service and Support addresses post-sale service and warranty tracking needs.

Chemical Manufacturers: Managing compounds and flexibly delivering in varying packaging configurations are just a few of the challenges associated with modern chemical manufacturing. QAD Enterprise Applications allows mixed-mode manufacturing necessary to meet dynamic demand.

Remanufacturing: Remanufacturers must manage returned cores, reconcile components and the managed acquisition of new materials. QAD’s flexible demand planning and management systems are the key to meeting these challenges.

Industrial Manufacturing Functional Benefits

QAD is committed to developing solutions that enable our customers in industrial manufacturing to become more effective. QAD solutions address many aspects of an industrial manufacturing company’s processes, including:

- Lean Manufacturing
- Enterprise Asset Management
- Engineering Change Control
- Transportation Management
- Demand and Supply Chain Planning
- Quality Management
- Supplier Management
- Configuration Management
- Direct and Contract Manufacturing
- Sales and Service Support
- Packaging
- Customer Self Service
- Distribution Network Management
- Electronic Data Interchange

The process map below reflects the breadth of QAD’s industrial manufacturing offering.
QAD Manufacturing in Industrial Manufacturing

Reduce costs and increase throughput using QAD Enterprise Applications to plan, schedule and track products:

**Master and Production Scheduling Workbenches:** Provides simple, visual manipulation of the master schedule and planned production. Planners can schedule production to meet demand more effectively and act when problems are imminent.

**Manufacturing Planning:** Includes fully integrated MPS and MRP and supports all production control methods such as repetitive, discrete and mixed-mode environments. Allows for simple adoption of tactical plans to meet and exceed customer expectations and changing demands.

**Integrated Repetitive and Work Order Manufacturing:** Provides high-volume repetitive scheduling in conjunction with detailed work order capability through production order process.

**Quality Management System:** Supports a vertically integrated approach to quality planning, quality execution, nonconformance management and quality reporting.

**Lean Manufacturing:** Supports companies adopting lean principles: QAD’s integrated Lean Manufacturing supports Kanban, TAKT time calculations and visual control methods.

**Configurator:** QAD’s complete rules-based product configuration suite supports configurations from quoting and order entry all the way through production planning, shop floor control, serialization, order fulfillment and after-sale service and support.
**Automation Solutions:** Provides integration to various data capture technologies, including RFID and bar coding for real-time transaction capture and validation of scanned data, eliminating manual data entry.

**Capital Projects:** Supports the financial aspects of project management, including reporting throughout the process and capitalization on completions.

**Full Lot Traceability:** Provides history from finished goods back to the supplier’s lot. Adds extensive lot/serial trace and reporting functions to work-in-process (WIP) and generates tracing information at the operation level whenever the company uses registered resources.

**Serialization:** Supports regulatory compliance for aggregated product serialization on pallet, shipper, case and unit levels. QAD Serialization offers serial number management, packing/unpacking and full-serialized inventory management.

**Outsourcing/Subcontracting:** Tracks financial obligations and the flow of materials, allowing seamless control of outsourced production as though it were a part of one production schedule.

**Enterprise Asset Management:** Supports all plant maintenance activities, including preventive maintenance and predictive management, work orders and service requests to ensure equipment is reliable and ready to go at all times, and compliance with regulatory mandates regarding product safety and cleanliness standards.

**Master Data Management:** Provides capabilities for tracking part numbers, bill of materials (BOM), routings and work centers, and integrates to Product Change Control (PCC) or Product Lifecycle Management (PLM).

**Product Change Control:** Provides control and improves information audit throughout QAD Enterprise Applications.

**QAD Customer Management in Industrial Manufacturing**

Respond more quickly to customers by providing the right products at the right time and at the right cost:

**Customer Relationship Management (CRM):** Provides a fully functional sales and marketing automation toolset designed to improve sales and marketing productivity, including communications and scheduling tools, pipeline and forecast management and customer service.

**Sales Orders:** Supports order entry, tracking and reporting order status and inventory allocations in both centralized and decentralized mode. It also allows customer service representatives (CSRs) to configure the process to match the company business processes.

**Customer Self Service (CSS):** Provides a web storefront for self-service sales transactions and inquiries that enable suppliers to automatically take orders while reducing processing cost and time to deliver, and with a higher degree of accuracy.
Sales Quotations: Supports management of sales quotations for tracking and conversion to sales orders.

Shipment Performance: Continuously monitors shipments and tracks performance against industry metrics, including DIFOT (Delivery in Full, On Time).

Service & Support Management: Manages installation, ongoing support, maintenance and repair of products including coverage by warranty or service contracts and tracks engineering resources.

Mobile Field Service: PC-based application that allows field engineers to log in remotely to record activities from a customer site, driving improved customer service and field productivity.

QAD Supply Chain in Industrial Manufacturing

Gain ROI and improve supply chain management by increasing supplier visibility:

Demand and Supply Chain Planning: Advanced tools to build and manage forecasts, either collaboratively or individually, based on mathematical models that utilize demand history and incorporate seasonal effects.

Supplier Portal: Collaborative portal communicates demand changes in real time and tracks the flow of orders and shipments using ASNs.

Purchasing: A comprehensive procurement and strategic sourcing tool, fully integrated with planning that provides sophisticated pricing across contracts and individual and blanket orders.

Transportation Management: Provides a complete set of tools to optimize shipments by air, sea, parcel, truckload or less than truckload; provides international documentation and assists in compliance with denied party regulations.

EDI: Gateway and mapping tool to support multiple EDI documents and multiple standards (EDIFACT, ANSI .X12, etc.). Validates and monitors transactions to ensure effective collaboration.

Supplier Performance: Monitors and reports supplier performance against defined metrics and key indicators, enabling constant monitoring and dialog with suppliers about quality and performance.

Warehousing: For larger or more sophisticated warehouses, provides automated task management, RF based picking, wave management, batch picking, location find/audit, put-away, picking, cross docking, quality control, replenishment, transfers and advanced cycle counting activities, including full support for global inventory views in multiple physical warehouses across multiple domains.

Logistics Accounting: Allows users to track and monitor freight costs and financial transactions by accrual and recovery of freight charges for delayed or missing invoices, critical to costing items accurately when freight invoices may lag the material invoice.
**Consignment:** Manages and tracks consigned inventory received from suppliers in a Vendor Managed Inventory (VMI) model or sent to customers from—receipt to inventory to consumption—and creates triggers for payment processing.

**Container Management:** Tracks and invoices customers for different types of shipping containers or for extra line charges, including adding charges at the line-item level or during the shipping process.

**Returned Goods Management (RMAs):** Generates invoices or credits for returns and exchanged goods processing.

---

**QAD Financials in Industrial Manufacturing**

Increase fiscal control and comply with industry mandates:

**Centralized or Decentralized Operations:** Includes fully internationalized shared services; support for multiple languages, transactions and reporting in any currency; multiple accounting calendars and charts of accounts.

**Global Reporting:** Provides multi-GAAP reporting of financial statements and multiple sets of books, which simplifies compliance with emerging treatments and standards, like International Financial Reporting Standards (IFRS).

**Configuration Cost and Pricing:** Automatically calculates prices for configurations, ensuring that margins remain strong and that customers experience fewer errors. Automatically calculates costs to ensure accurate profit calculations.

**Enhanced Controls:** Provides strict enforcement of the authenticity, integrity, auditing and confidentiality of electronic records and supports eSignature.

**Evaluated Receipts Settlement (ERS):** Records liabilities automatically based on quantities received at the unit price negotiated with the supplier in a purchase agreement.

**Accounts Receivable Self-Billing:** Processes customer-initiated payments by recording documents and applying payment credit to accounts receivable based on the line-item shipper details.

**Retro Billing:** Allows invoicing a customer for price changes on shipped items originally invoiced at a different price.

**Cost Management:** Provides multiple user-defined cost sets and elements for simulations and analysis, supports cost by location and supports multiple cost methods in parallel.
QAD in Consumer Products

QAD Enterprise Applications solution for consumer products manufacturers manages ever-increasing numbers of new products and line extensions, demanding consumers, constantly changing customer tastes and regulatory requirements across a complex and volatile supply chain.

QAD’s solutions enable companies to optimize inventory, collaborate with suppliers and run a more efficient manufacturing environment. QAD’s solutions improve supply chain efficiency while helping manage costs, improve margins and more effectively collaborate with customers.

QAD’s solutions support such key initiatives as sustainability, regulatory export and import, customer centric supply chains, and improved quality and regulatory compliance.

The QAD consumer product offering supports global eCommerce requirements in a single environment. With comprehensive training and partner support for major global retailers, QAD supports every major country.

Consumer Products Key Issues

**Building consumer confidence in product safety and quality**: Consumers are increasingly concerned about the source and quality of products and components.

QAD Enterprise Applications provides complete tracking and tracing capabilities. Companies always know exactly where the ingredients came from and where they have sold products.

**Global regulatory compliance**: Heightened fears of terrorism have redefined the rules for global commerce. Increasingly rigorous compliance reporting has placed new pressures on the supply chain and supporting systems.

QAD Enterprise Applications provides tools to enforce company policies and track transactions.

**Changing consumer preferences**: Consumers are smarter and more demanding resulting in increasing pressures to deliver the right product at the right time. Many consumers require custom products delivered quickly with free shipping.

QAD Enterprise Applications help manufacturers meet changing customer demands with functionality such as demand and supply chain planning, production scheduling and trade activity management.

**Supporting global sustainability initiatives**: Global retailers mandate that manufacturers implement sustainability programs that take emissions out of the environment, save on natural resources and improve utilization of materials.

QAD Enterprise Applications supports green initiatives through functionality such as tracking reusable containers and packaging.
Consumer Products Value Chain

The consumer products value chain can be particularly complex and change rapidly. Club stores, mass retailers, discount stores, dollar stores and the internet have expanded the value chain in recent years. Manufacturers frequently deal with many different layers of suppliers, distributors and channels. The QAD consumer products solution accelerates communication at all levels of the value chain and provides tools to manage demand, promotions, and product introductions and brand development.

QAD Enterprise Applications for consumer products provides capabilities to help customers throughout the value chain achieve their business goals.

Consumer Products Industry Segments

**Assembled and Discrete Products:** Customers of assembled and discrete products manufacturers expect streamlined ordering processes and the ability to select from a series of flexible ordering options. QAD helps improve customer service processes, management of complex supply chains and manufacturing processes.

**Consumer Electronics:** Consumer electronics manufacturers compete in a constantly changing marketplace where the ability to rapidly develop and introduce new products is critical to their success. QAD helps reduce costs, improve supplier and customer collaboration, manage high volume materials and shorten product lifecycles while maintaining profitability.

**Household & Personal Products:** End to end visibility and streamlined processes are critical to the ability of household and personal packaged product companies to successfully manufacture high quality products and deliver on time. They must improve
processes; effectively manage trade and promotional requirements, and track products and information across the entire production cycle.

**Jewelry Manufacturing:** The ability of jewelry manufacturers to track materials, manage bonded warehousing and sensitive transportation methods while minimizing manufacturing costs is essential to maintaining profits and competitive advantage. QAD provides full traceability and the ability to manage inventories of sensitive or high value items and products.

**Consumer Products Functional Benefits**

QAD’s solutions support such key consumer products industry initiatives as sustainability, regulatory export and import, customer centric supply chains, and improved quality and regulatory compliance.

QAD solution addresses many aspects of consumer products manufacturing, including:

- Lean Manufacturing
- Enterprise Asset Management
- Trade Activity Management
- Warehouse Management
- Transportation Management
- Quality Management
- Supplier Management and Collaboration
- Distribution Network Management
- Electronic Data Interchange
- Consigned and Vendor Managed Inventory
- Electronic Records Management
- Customer Management
- Demand and Supply Chain Planning
- Returned Goods Management
The process map below reflects the breadth of QAD’s consumer products offering.

QAD Manufacturing in Consumer Products

Reduce costs and increase throughput by addressing simultaneous, multimode manufacturing including discrete, process and repetitive.

Product Genealogy: Track unique custom item and lot attributes including specifications, test results, potency and more throughout the production process. Supports regulatory compliance for aggregated product serialization on pallet, shipper, case and unit levels.

Automation Solutions: Provides integration to various data capture technologies, including RFID and bar coding for real-time transaction capture and validation of scanned data, eliminating manual data entry.

Repetitive Manufacturing: Provides high-volume, repetitive scheduling across multiple production lines, even sharing the same resources used by discrete items controlled with work orders, including full support of serialization.

Lean Manufacturing: Supports companies adopting lean principles; QAD’s integrated Lean Manufacturing supports Kanban, TAKT time calculations and visual control methods.

Batch & Formula Management: Flexible formula and recipe management allows multiple formulations of a product and helps ensure consistent product characteristics with batch balancing for ingredient potencies.
Master and Production Scheduling Workbenches: Provides simple, visual manipulation of the master schedule and planned production. Planners can schedule production to meet demand more effectively and act when problems are imminent.

Quality Management System: Supports product quality, including inspection and testing, incoming inspection of purchased items, regulatory compliance and inventory sampling. This includes definitions of standard testing procedures and manages inventory sampling plans and quality work orders.

Capital Projects: Supports the financial aspects of project management, including reporting throughout the process and capitalization on completions.

Full Lot Traceability: Provides history from finished goods back to the supplier’s lot. Adds extensive lot/serial trace and reporting functions to work-in-process (WIP) and generates tracing information at the operation level whenever the company uses registered resources.

Compliance Management: Provides critical manufacturing controls at the batch level, including the ability to track additional item and work order attributes and key batch dates. This solution also provides the ability to manage controlled substances, track DEA and other regulatory agency licenses, support controls required by Current Good Manufacturing Practices (cGMP) and provide for the use of eSignatures.

Outsourcing/Subcontracting: Tracks financial obligations and the flow of materials, allowing seamless control of outsourced production as though it were a part of one production schedule.

Enterprise Asset Management: Supports all plant maintenance activities, including preventive maintenance and predictive management, work orders and service requests to ensure equipment is reliable and ready to go at all times, and compliance with regulatory mandates regarding product safety and cleanliness standards.

Product Change Control: Provides control and improves information audit throughout QAD Enterprise Applications.

QAD Customer Management in Consumer Products

Respond more quickly to customers by providing the right products at the right time and at the right cost:

Customer Relationship Management: Provides a fully functional sales and marketing automation toolset designed to improve sales and marketing productivity, including communications and scheduling tools, pipeline and forecast management and customer service.

Sales Orders and Invoicing: Supports order entry, tracking and reporting order status and inventory allocations in both centralized and decentralized mode. It also allows customer service representatives (CSRs) to configure the process to match the company business processes.
Trade Activity Management: Enables the ability to drive, manage and reconcile ongoing product promotion events with key retailers to ensure that spending generates appropriate sales, and manages rebates, chargebacks and promotional activities.

Customer Self Service: Provides a web storefront for self-service sales transactions and inquiries that enable suppliers to automatically take orders while reducing processing cost and time to deliver, and with a higher degree of accuracy.

Configurator: QAD’s complete rules-based product configuration suite supports configurations from quoting and order entry all the way through production planning, shop floor control, serialization, order fulfillment and after-sale service and support.

Sales Quotations: Supports management of sales quotations for tracking and conversion to sales orders.

Service & Support Management: Manages installation, ongoing support, maintenance and repair of products including coverage by warranty or service contracts and tracks engineering resources.

Mobile Field Service: PC-based application that allows field engineers to log in remotely to record activities from a customer site, driving improved customer service and field productivity.

Field Service Scheduler: Reduce cost and improve customer service by increasing service engineers’ productivity.

Pricing: Dynamic and flexible framework for multiple price lists with effective dates and discounts that applies sophisticated rules to ensure best pricing.

Returned Goods Management (RMAs): Generates invoices or credits for returns and exchanged goods processing.

Data Synchronization Interface: Provides required GS1-compliant messaging for supplier-side transactions using workflow.

QAD Supply Chain in Consumer Products

Gain ROI and improve supply chain management by increasing supplier visibility:

Demand and Supply Chain Planning: Advanced tools to build and manage forecasts, either collaboratively or individually, based on mathematical models that utilize demand history and incorporate seasonal effects.

Supplier Portal: Collaborative portal communicates demand changes in real time and tracks the flow of orders and shipments using ASNs.

Purchasing: A comprehensive procurement and strategic sourcing tool, fully integrated with planning that provides sophisticated pricing across contracts and individual and blanket orders.

Transportation Management: Provides a complete set of tools to optimize shipments by air, sea, parcel, truckload or less than truckload; provides international documentation and assists in compliance with denied party regulations. Continuously monitors
shipments and tracks performance against industry metrics, including DIFOT (Delivery in Full, On Time).

**EDI:** Gateway and mapping tool to support multiple EDI documents and multiple standards (EDIFACT, ANSI .X12, etc.). Validates and monitors transactions to ensure effective collaboration.

**Outsourcing/Subcontracting:** Tracks financial obligations and the flow of materials, allowing seamless control of outsourced production as though it were a part of one production schedule.

**Supplier Performance:** Monitors and reports supplier performance against defined metrics and key indicators, enabling constant monitoring and dialog with suppliers about quality and performance.

**Warehousing:** Manages complex warehouses, high volume picking and fulfillment, and complex space management.

**Logistics Accounting:** Allows users to track and monitor freight costs and financial transactions by accrual and recovery of freight charges for delayed or missing invoices, critical to costing items accurately when freight invoices may lag the material invoice.

**Consignment Inventory:** Manages and tracks consigned inventory received from suppliers in a Vendor Managed Inventory (VMI) model or sent to customers from—receipt to inventory to consumption—and creates triggers for payment processing.

**Container Management:** Tracks and invoices customers for different types of shipping containers or for extra line charges, including adding charges at the line-item level or during the shipping process.

**Mobile Approvals:** Review, approve, reject and route pending requisitions, all from your mobile device.

**QAD Financials in Consumer Products**

Increase fiscal control and comply with industry mandates:

**Centralized or Decentralized Operations:** Includes fully internationalized shared services; support for multiple languages, transactions and reporting in any currency; multiple accounting calendars and charts of accounts.

**Global Reporting:** Provides multi-GAAP reporting of financial statements and multiple sets of books, which simplifies compliance with emerging treatments and standards, like International Financial Reporting Standards (IFRS).

**Configuration Cost and Pricing:** Automatically calculates prices for configurations, ensuring that margins remain strong and that customers experience fewer errors. Automatically calculates costs to ensure accurate profit calculations.

**Enhanced Controls:** Provides strict enforcement of the authenticity, integrity, auditing and confidentiality of electronic records and supports eSignature.
Evaluated Receipts Settlement (ERS): Records liabilities automatically based on quantities received at the unit price negotiated with the supplier in a purchase agreement.

Accounts Receivable Self-Billing: Processes customer-initiated payments by recording documents and applying payment credit to accounts receivable based on the line-item shipper details.

Retro Billing: Allows invoicing a customer for price changes on shipped items originally invoiced at a different price.

Cost Management: Provides multiple user-defined cost sets and elements for simulations and analysis, supports cost by location and supports multiple cost methods in parallel.

Fixed Assets: Reduce the time and costs associated with managing assets.

Internationalization: Simplify local, country-specific business practices, regulatory compliance and reporting requirements.

Financial Analysis: Analyze and develop business plans, budgets and track performance.
QAD in Food and Beverage

QAD’s goal is to support food and beverage manufacturers in achieving their market goals in brand development, demand management and new product introduction, while embracing food security and quality requirements.

QAD Enterprise Applications solution for food and beverage manufacturers helps companies manage the challenges of meeting consumer demand at the shelf, margin pressures, increasing product regulation requirements and the ever-increasing pressure for both increased quality and sustainability.

QAD’s solution enables food and beverage companies to optimize inventory, significantly improve collaboration with suppliers and customers and plan promotions that are more effective. QAD solutions enable a more efficient manufacturing environment, improve supply chain efficiency, help control costs and improve margins.

Food and Beverage Key Issues

Becoming market leaders in the food and beverage industry requires the ability to anticipate and exceed consumer and customer demands. Manufacturers must develop close supply chain partnerships, increase customer service levels, control costs and streamline operations. QAD understands these needs and offers solutions and services to address them.

Effective New Product Introductions: Consumers are demanding healthier and easier to prepare food and meal items. Margins are thin and competition is strong in the fast-paced food and beverage market. Brands and SKUs are proliferating, with a steady stream of new flavors and product variations entering the marketplace. To win, food and beverage companies must develop effective new product introduction processes. In addition, store brands and private label products are increasing and promotions are critical for success.

QAD Enterprise Applications supports an efficient new products introduction process, manages costs and cost projections.

Product safety and quality: Government agencies are increasing regulations on food and beverage products. The Food Safety Modernization Act (FSMA) has global ramifications and most developed countries have strict food regulations. Consumers are displaying increasing concerns about quality and are demanding more information about the origin of their food products.

QAD Enterprise Applications provides complete tracking and tracing capabilities so the company always knows exactly where ingredients come from and they have sold products.

Global sustainability initiatives: Global retailers mandate that manufacturers implement sustainability programs that take emissions out of the environment, save on natural resources and improve material utilization. Food manufacturers are required to prove fair trade compliance for many commodity markets and provide proof of origin information to government regulators and consumers.
QAD Enterprise Applications supports green initiatives in a variety of ways, including managing reusable packaging and containers, and handling by-products and co-products efficiently.

**Food and Beverage Value Chain**

Food and beverage manufacturers deal with many different suppliers, distributors and channels in taking their product to market. The QAD food and beverage solution accelerates communication at all levels of the value chain and provides tools to manage demand, promotions and packing and co-packing.

QAD Enterprise Applications provides capabilities to help food and beverage customers achieve their business goals regardless of their position in the food and beverage value chain.

![Food and Beverage Value Chain Diagram](image-url)
Food and Beverage Segments

**Shelf-Stable Bottling, Canning and Packaging:** Manages supply chain complexities from forecasting item location demand through material procurement. Streamlining production processes and minimizing inventory has never been easier than with QAD’s integrated planning tools.

**Distilleries, Wineries and Brewing:** Alcoholic beverage manufacturers face difficult long-term forecasting requirements for planning at multiple product levels. Sophisticated tools from QAD can help manage the long and intermittent processing steps of this industry while satisfying changing consumer tastes and maintaining compliance with strict export regulations.

**Frozen foods:** Frozen food manufacturers require accountability and traceability of products that ensure storage and transport at the correct temperature, in controlled environments. Effectively managing 3PL distribution and contract manufacturing partners while minimizing distribution and manufacturing costs is critical.

**Creameries and Fresh Foods:** Perishable raw materials, products with short shelf lives, and maintaining quality and costs are a few of the complexities facing creameries and fresh food manufacturers. QAD helps track and trace products, adapt to changing labeling requirements and plan around short shelf lives to deliver products safely, on time and profitably.

**Candy and Confectionery:** Candy and confectionery manufacturers focus on the artisanship of producing products from fine chocolates to sugary treats to satisfy the demands of a global marketplace. To accomplish this, they must effectively manage inventories, run production lines efficiently and smoothly, and coordinate multiple distribution channels from retailers to company owned stores.

**Meat and Fish Processing:** Managing inventory levels and streamlining operations while providing full product traceability is critical for meat and fish processing companies. QAD allows processors to maximize profits, minimize costs and provide timely customer deliveries while maintaining food safety throughout the supply chain.

Food and Beverage Functional Benefits

QAD’s solution enables food and beverage companies to optimize inventory, significantly improve collaboration with suppliers and customers and plan promotions that are more effective. QAD solutions enable a more efficient manufacturing environment, improve supply chain efficiency, help control costs and improve margins.

QAD’s solution addresses food and beverage companies’ manufacturing processes, including:

- Trade Activity Management
- Enterprise Asset Management
- Demand and Supply Chain Planning
- Warehouse Management
- Transportation Management System
- Quality Management System
- Supplier Management and Collaboration
• Direct Store Delivery
• Electronic Data Interchange
• Product Genealogy
• Automation Solutions
• Consigned and Vendor Managed Inventory
• Electronic Record Management
• Customer Management
• Shop Floor Data Collection
• Returned Goods Management

The process map below demonstrates the depth of QAD’s food and beverage industry offering.

**QAD Manufacturing in Food and Beverage**
Reduce costs and increase throughput using QAD Enterprise Applications to plan, schedule and track products:

**Product Genealogy:** Track unique custom item and lot attributes including specifications, test results, potency and more throughout the production process. Supports regulatory compliance for aggregated product serialization on pallet, shipper, case and unit levels.

**Automation Solutions:** Provides integration to various data capture technologies, including RFID and bar coding for real-time transaction capture and validation of scanned data, eliminating manual data entry.
Repetitive Manufacturing: Provides high-volume, repetitive scheduling across multiple production lines, even sharing the same resources used by discrete items controlled with work orders, including full support of serialization.

Lean Manufacturing: Supports companies adopting lean principles; QAD’s integrated Lean Manufacturing supports Kanban, TAKT time calculations and visual control methods.

Batch & Formula Management: Flexible formula and recipe management allows multiple formulations of a product and helps ensure consistent product characteristics with batch balancing for ingredient potencies.

Master and Production Scheduling Workbenches: Provides simple, visual manipulation of the master schedule and planned production. Planners can schedule production to meet demand more effectively and act when problems are imminent.

Quality Management System: Supports product quality, including inspection and testing, incoming inspection of purchased items, regulatory compliance and inventory sampling. This includes definitions of standard testing procedures and manages inventory sampling plans and quality work orders.

Capital Projects: Supports the financial aspects of project management, including reporting throughout the process and capitalization on completions.

Full Lot Traceability: Provides history from finished goods back to the supplier’s lot. Adds extensive lot/serial trace and reporting functions to work-in-process (WIP) and generates tracing information at the operation level whenever the company uses registered resources.

Compliance Management: Provides critical manufacturing controls at the batch level, including the ability to track additional item and work order attributes and key batch dates. This solution also provides the ability to manage controlled substances, track DEA and other regulatory agency licenses, support controls required by Current Good Manufacturing Practices (cGMP) and provide for the use of eSignatures.

Outsourcing/Subcontracting: Tracks financial obligations and the flow of materials, allowing seamless control of outsourced production as though it were a part of one production schedule.

Enterprise Asset Management: Supports all plant maintenance activities, including preventive maintenance and predictive management, work orders and service requests to ensure equipment is reliable and ready to go at all times, and compliance with regulatory mandates regarding product safety and cleanliness standards.

Product Change Control: Provides control and improves information audit throughout QAD Enterprise Applications.

QAD Customer Management in Food and Beverage
Respon more quickly to customers by providing the right products at the right time and at the right cost:
Customer Relationship Management (CRM): Provides a fully functional sales and marketing automation toolset designed to improve sales and marketing productivity, including communications and scheduling tools, pipeline and forecast management and customer service.

Sales Orders and Invoicing: Supports order entry, tracking and reporting order status and inventory allocations in both centralized and decentralized mode. It also allows customer service representatives (CSRs) to configure the process to match the company business processes.

Trade Activity Management: Enables the ability to drive, manage and reconcile ongoing product promotion events with key retailers to ensure that spending generates appropriate sales, and manages rebates, chargebacks and promotional activities.

Customer Self Service: Provides a web storefront for self-service sales transactions and inquiries that enable suppliers to automatically take orders while reducing processing cost and time to deliver, and with a higher degree of accuracy.

Configurator: QAD’s complete rules-based product configuration suite supports configurations from quoting and order entry all the way through production planning, shop floor control, serialization, order fulfillment and after-sale service and support.

Sales Quotations: Supports management of sales quotations for tracking and conversion to sales orders.

Service & Support Management: Manages installation, ongoing support, maintenance and repair of products including coverage by warranty or service contracts and tracks engineering resources.

Pricing: Dynamic and flexible framework for multiple price lists with effective dates and discounts that applies sophisticated rules to ensure best pricing.

Returned Goods Management (RMAs): Generates invoices or credits for returns and exchanged goods processing.

Data Synchronization Interface: Provides required GS1-compliant messaging for supplier-side transactions using workflow.

QAD Supply Chain in Food and Beverage

Gain ROI and improve supply chain management by increasing supplier visibility.

Demand and Supply Chain Planning: Advanced tools to build and manage forecasts, either collaboratively or individually, based on mathematical models that utilize demand history and incorporate seasonal effects.

Supplier Portal: Collaborative portal communicates demand changes in real time and tracks the flow of orders and shipments using ASNs.

Purchasing: A comprehensive procurement and strategic sourcing tool, fully integrated with planning that provides sophisticated pricing across contracts and individual and blanket orders.
Transportation Management: Provides a complete set of tools to optimize shipments by air, sea, parcel, truckload or less than truckload; provides international documentation and assists in compliance with denied party regulations. Continuously monitors shipments and tracks performance against industry metrics, including DIFOT (Delivery in Full, On Time).

EDI: Gateway and mapping tool to support multiple EDI documents and multiple standards (EDIFACT, ANSI .X12, etc.). Validates and monitors transactions to ensure effective collaboration.

Outsourcing/Subcontracting: Tracks financial obligations and the flow of materials, allowing seamless control of outsourced production as though it were a part of one production schedule.

Supplier Performance: Monitors and reports supplier performance against defined metrics and key indicators, enabling constant monitoring and dialog with suppliers about quality and performance.

Warehousing: Manages complex warehouses, high volume picking and fulfillment, and complex space management.

Logistics Accounting: Allows users to track and monitor freight costs and financial transactions by accrual and recovery of freight charges for delayed or missing invoices, critical to costing items accurately when freight invoices may lag the material invoice.

Consignment Inventory: Manages and tracks consigned inventory received from suppliers in a Vendor Managed Inventory (VMI) model or sent to customers from—receipt to inventory to consumption—and creates triggers for payment processing.

Container Management: Tracks and invoices customers for different types of shipping containers or for extra line charges, including adding charges at the line-item level or during the shipping process.

Mobile Approvals: Review, approve, reject and route pending requisitions, all from your mobile device.

Daily Fresh: Includes route management and settlement and preconfigured DSD applications for in store tasks, including route sales, delivery, merchandising, pre-sales and full-line vending and allows customers to create unique localization business rules, workflow and services and enables mobile device use.

Financials in Food and Beverage
Increase fiscal control and comply with industry mandates:

Centralized or Decentralized Operations: Includes fully internationalized shared services; support for multiple languages, transactions and reporting in any currency; multiple accounting calendars and charts of accounts.

Configuration Cost and Pricing: Automatically calculates prices for configurations, ensuring that margins remain strong and that customers experience fewer errors. Automatically calculates costs to ensure accurate profit calculations.

Enhanced Controls: Provides strict enforcement of the authenticity, integrity, auditing and confidentiality of electronic records and supports eSignature.

Evaluated Receipts Settlement (ERS): Records liabilities automatically based on quantities received at the unit price negotiated with the supplier in a purchase agreement.

Accounts Receivable Self-Billing: Processes customer-initiated payments by recording documents and applying payment credit to accounts receivable based on the line-item shipper details.

Retro Billing: Allows invoicing a customer for price changes on shipped items originally invoiced at a different price.

Cost Management: Provides multiple user-defined cost sets and elements for simulations and analysis, supports cost by location and supports multiple cost methods in parallel.

Fixed Assets: Reduce the time and costs associated with managing assets.

Internationalization: Simplify local, country-specific business practices, regulatory compliance and reporting requirements.

Financial Analysis: Analyze and develop business plans, budgets and track performance.
QAD Enterprise Applications

QAD Enterprise Applications is a complete suite to support the needs of global manufacturers. QAD Enterprise Applications consists of functional suites, which address business processes. The suite includes:

**Financials:** Addresses complex regulatory requirements, strict segregation of duties, and more controls as required by larger, more complex enterprises; includes sophisticated budget modeling capabilities, advanced reporting, multiple reporting layers that simplify complex Multi-GAAP reporting requirements and enhance audit capabilities.

**Customer Management:** Provides improved responsiveness through collaboration and management of customers and demand

**Manufacturing:** Enables companies to reduce costs and increase throughput using the latest manufacturing scheduling techniques, including the capability to support lean principles

**Supply Chain:** Helps companies improve management of supply and suppliers through real-time collaboration

**Service and Support:** Provides the capability for after-sale service and support. Manages warranty tracking, services calls, and returns and repairs

**Analytics:** Helps companies analyze data to measure business performance in key areas

**Interoperability:** Allows database portability and operating system flexibility and works with QAD Q-Xtend application-to-application (A2A) integration toolset that enables enterprise applications to interoperate with the complete QAD Enterprise Application suite without coding. X-Tend serves as the “adapter” between QAD and other enterprise applications, automating critical tasks such as data synchronization, and eliminates the burden of maintaining custom interfaces and manual data entry.

QAD Boomi AtomSphere enables simple integration between applications in the QAD cloud and on-premise solutions or customer solutions running in a different public or private cloud.

**Process and Performance:** Performance Monitoring Framework provides the capability to pre-actively monitor system performance and act to prevent or correct any issues that may affect optimum performance. Business Process Manager allows for simple configuration of business processes and associated workflows.
Financials

The QAD Enterprise Applications Financials suite provides comprehensive controls and capabilities needed to support global financial reporting and disclosure. With these processes built into the software, manufacturers can focus on their business, not their software.

QAD Financials addresses complex regulatory requirements, strict segregation of duties, and controls required by larger, more complex enterprises. QAD Financials includes sophisticated budget modeling capabilities, advanced reporting, multiple reporting layers that simplify complex Multi-GAAP reporting requirements and enhanced audit capabilities.

- **Drive efficient processes:** Supports both shared services and local autonomy
- **Streamline regulatory reporting:** Built in support for compliance requirements
- **Increase efficiency:** Includes eliminations, consolidations and GL allocations
- **Improve visibility:** Provides insight into operations around the world

### Financials Highlights

**Accounts Payable:** Streamlines the payables process, manages supplier accounts, monitors outstanding payables, manages electronic fund transfers and automates the processing of payments to suppliers.

**Accounts Receivable:** Monitors customer balances, supports credit management, produces statements, aging reports and records customer payments, including electronic funds forwarding.

**Analytics:** Provides powerful financial analysis to determine the overall state of the business. It ensures that everyone from C-level executives to line-of-business managers has the best information available to make critical business decisions confidently.
Allocations: Simplifies cost and revenue distribution by automatically distributing amounts based on user-defined algorithms and allows for multi-level and recursive allocations.

Banking/Cash Management: Provides for the efficient management of the organization’s cash flow. It automates the processing of payments using electronic banking, as well as electronic import and balancing of bank statements.

Budgeting: Features a powerful set of budgeting and modeling tools, allowing planning for multiple companies, and multiple level budget roll-ups, with drill down for detailed analysis.

Consolidations: Automates financial consolidations and eliminations across enterprises, even when entities use different charts of accounts, fiscal periods and currencies. Multiple consolidation views allow for simulated financials, proportional consolidations, in both summary and detail. Automatic eliminations reduce the need for manual journal entries.

Cost Management: Provides multiple user-defined cost sets and elements for simulations and analysis, supports cost by location and supports multiple cost methods in parallel.

Credit Management: Ensures visibility of credit issues and supports customer credit checking across the entire global enterprise, ensuring that local orders or shipments don’t exceed corporate credit limits even if within local limits, and provides critical and timely monitoring of overdue payments and customer balance.

Financial Shared Services: Promotes centralization and rollout of corporate wide standards, providing economies of scale and ensuring consistency.

General Ledger: Multiple-layered model supports multiple sets of books to simplify global international reporting across all divisions and regions and tracks all financial transactions in any currency.

Governance, Risk & Compliance: Provides tools and controls to help companies comply with regulations such as Sarbanes-Oxley (SOX) or the Japanese version, J-SOX.

Management Reporting: Provides a powerful tool to generate daily, monthly, quarterly and annual corporate and governmental reports. The extensive reporting features provide maximum flexibility and operational efficiency.

Multi-currency: Allows the organization to conduct business in any currency and generate consolidated reporting in any currency. Dual Base Currency allows transactions to be stored in transaction currency, base or functional currency and in an additional base or statutory currency.

Multi-GAAP: Supports adherence to local and regional reporting requirements simultaneously in many jurisdictions, and the ability to transact and report in any currency.

Tax Management: Supports tax calculations, complex tax environments and taxes for multiple countries in the same database, eliminating the need for regional tax systems.
QAD Internationalization: Tracks tax reporting changes to help ensure consistent country level compliance. It also allows manufacturers to meet and comply with legal and common business requirements across the globe.

QAD Enhanced Controls: Provides complete audit trail of changes and helps meet industry compliance requirements like FDA Part 11 and SOX.

QAD Fixed Assets: Supports asset tracking and depreciation calculation and reporting. Provides multiple advanced depreciation methods and multiple depreciation books for reporting and tax purposes.

QAD Logistics Accounting: Allows users to track and monitor freight costs and financial transactions by accrual and recovery of freight charges for delayed or missing invoices, critical to costing items accurately when freight invoices may lag the material invoice.

QAD Revenue Recognition: Helps manufacturers meet revenue recognition requirements and comply with the ASC 606/IFRS 15 revised guidance for determining revenue from contracts with customers.

QAD Sales and Use Tax Interface: Reduces sales and use tax audit exposure and liability and reduces customer and supplier complaints by integrating third party tax data, ensuring up-to-date accurate tax rates. Includes an Application Programming Interface (API) between Avalara Avatax or Vertex Sales Tax Q Series®.

Partner Products

ACOM: Provides accounts payable automation, document management, EDI software and content management.

Avalara: Helps businesses achieve compliance with sales tax, excise tax, and other transactional tax requirements. The platform manages complicated and burdensome tax compliance obligations imposed by state, local, and other taxing authorities in the United States and internationally.

Billtrust Complete: Provides cloud-based payment cycle management and accounts receivable solutions to automate invoicing, payment, and cash application processes.

Cforia Software: Optimizes global order-to-cash processes across the entire business, providing solutions in credit, collections and deductions management.

M2M Advanced Costing Modules: Improve order entry and production accuracy for complex orders with exact costing information and automated costing processes. Significantly reduce lead times and cost of sales.

Minsoft: eFORMz is a forms and label generation solution using native QAD print output to produce Packing Lists, 1D/2D Barcode Labels, POs, Invoices, RMA’s, A/P Checks, Shipping Labels, BOL, Customs Invoices and Sales Quotes. Supports multi byte character sets - Chinese, Korean, Japanese or Eastern European languages.

PICS: An enterprise document and business process management solution that stores key business documents, converts paper documents to digital images, routes documents for approval and captures data to generate QAD transactions.
Prophix: Delivers corporate performance management software for budgeting, forecasting, planning, and reporting.

ProStar Software: Provides encrypted credit card integration.

Unicorn: Offers a fully integrated and configurable HR solution, which includes human resources, payroll, benefits and insurance.
Customer Management

QAD’s comprehensive suite of customer management solutions supports all phases of the customer lifecycle—from acquiring customers, through managing orders, pricing and fulfillment. Customers rely on our solutions to run marketing and sales force automation, manage sales force activity and performance and to monitor adherence to their sales process.

- **Drive revenue**: Through effective and cost-efficient marketing campaigns
- **Increase visibility across all channels**: Giving a complete picture of the customer
- **Improve the customer’s experience**: Quick, accurate information and self-service options help keep the customer informed
- **Streamline order processes, including configurations**: Accurate order entry and product configuration reduce costs and shorten deliveries

### Customer Management Highlights

**Customer Relationship Management (CRM)**: Provides a sales and marketing automation toolset designed to improve sales and marketing productivity, including communications and scheduling tools, pipeline and forecast management and customer service.

**Sales Analysis**: Allows companies to monitor margins and salesperson productivity. It also provides analysis on sales by product, item, site and customer, and ranks sales by item, margin or quantity sold.

**Sales Orders**: Supports order entry, tracking and reporting order status and inventory allocations in both centralized and decentralized mode. It also allows customer service representatives (CSRs) to configure the process to match the company business processes.

**Sales Quotations**: Supports management of sales quotations for tracking and conversion to sales orders.
Pricing: Dynamic and flexible framework for multiple price lists with effective dates and discounts that applies sophisticated rules to ensure best pricing.

QAD Configurator: QAD’s complete rules-based product configuration suite supports configurations from quoting and order entry all the way through production planning, shop floor control, serialization, and order fulfillment and after-sale service and support.

QAD Customer Self Service (CSS): Provides a web storefront for self-service sales transactions and inquiries that enable manufacturers to automatically take orders while reducing processing cost and time to deliver, and with a higher degree of accuracy.

QAD Trade Activity Management: Allows manufacturers to more effectively analyze and monitor promotional programs; set budgets; track revenue and costs; compare them to budget and prior years; evaluate sales by customers and products; process and track claims and rebates; and control deductions.

Partner Products

Manufacturing

QAD Manufacturing is a complete and feature-rich suite addressing simultaneous, multi-mode manufacturing and provides full shop floor control of orders through the entire manufacturing process. It provides for mass customization of products in response to customer’s unique requirements, and measures and tracks performance and quality. The solution provides tools for planning, scheduling, cost management, material control, shop floor control, reporting and more. QAD Manufacturing provides processes for discrete, repetitive, multi- and mixed-mode, Kanban, flow, batch and formula process and co-products/by-products manufacturing.

- **Streamline manufacturing planning and execution:** Incorporates best practices and enables efficient coordination
- **Improve response time:** Enables timely access to accurate planning information
- **Increase customer satisfaction:** Allows faster response to demand changes
- **Drive performance:** Measures performance to strategic goals and facilitates adoption of tactical plans

**Manufacturing Highlights**

**Available to Promise:** Helps manufacturers accurately respond to customer orders based on available product quantities and requested delivery dates.

**Inventory Management:** Monitors balances, performs cycle counts and includes inventory transaction history and lot/serial tracking reports.
Lean Manufacturing: Supports companies adopting lean principles. QAD’s integrated Lean Manufacturing supports Kanban, TAKT time calculations and visual control methods.

Lot Trace Workbench: Extends track and trace capabilities with visibility of current and historical lot-controlled inventory to support returns, recalls and audits.

Master Planning and Scheduling Workbench: Provides planners and schedulers simultaneous visibility into plans, schedules and all supporting data, and enables control and collaboration across the production and materials planning space.

Material Requirements Planning: Accurately determines purchased and manufactured material requirements to meet demand.

Product Genealogy: Tracks custom item and lot attributes such as potency, country of origin, product specifications, test results and quality across manufacturing processes.

Regulatory Attributes: Helps meet compliance requirements such as current Good Manufacturing Practices (cGMP), Quality System Regulations (QSR), NAFTA and GATT.

Serialization: Provides complete serial number and license plate tracking history from finished goods back to the supplier’s lot.

Shop Floor Control: tracks activities and records operations status and labor times for manufacturing jobs.

QAD Automation Solutions: Provides integration to various data capture technologies, including RFID and bar coding for real-time transaction capture, label printing and validation of scanned data, eliminating manual data entry.

QAD Enterprise Asset Management (EAM): Provides equipment, tools and rotatable inventory maintenance, with MRO procurement and capital asset costing. QAD EAM is an integrated plant operation solution that enables companies to operate plants more efficiently by keeping equipment running at the lowest cost.

QAD Just-In-Time Sequencing: Manages material flow to OEMs by sequencing customer deliveries with the correct items, delivered on time.

QAD QMS (quality management system): Provides the ability to meet ongoing quality system requirements, while automatically sharing data across the entire quality and business system. QAD QMS provides supplier access to corrective actions, manages supplier certification and automates supplier grading. It fully supports APQP, CAPA and gauge calibration schedules.

Partner Products

AbeTech: Works alongside QAD’s Automation Solution to help standardize, consolidate and optimize the data collection infrastructure.

Eagle Consulting and Development RF Express: Integrates critical automated data collection and bar coding functions.
**Freedom Technologies**: Monitors, manages and controls production line operations, ensuring correct manufacturing and shipping procedures.

**Factivity**: Provides MES (Manufacturing Execution System), APS (Advanced Planning & Scheduling) and factory time and attendance delivering real-time OEE (Overall Equipment Effectiveness) metrics to improve factory asset performance.

**HelmApps**: JIT Sequencing

**Radley**: Provides a platform of EDI, warehouse and manufacturing solutions, which allow organizations to re-engineer their business processes and workflows for optimum efficiency.

**Progress Software Corporation / DataRPM Division**: Automates machine learning to help manufacturing and industrial organizations harness the Industrial IoT, to detect and predict machine failures before they occur, dramatically reducing downtime and increasing asset operational efficiency.

**Siemens (PLM Software division – specifically their acquisition of Preactor)**: Provides advanced planning and scheduling tools that optimize production scheduling.

**MPS**, a QAD Consulting partner, created an integration between Preactor and QAD that they sell and service.
Supply Chain

<table>
<thead>
<tr>
<th>QAD Supply Chain Core Components</th>
<th>Distribution Requirements Planning (DRP)</th>
<th>Enterprise Operations Planning (EOP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Requisition System (GRS)</td>
<td></td>
<td>Purchasing</td>
</tr>
<tr>
<td>Supplier Consignment</td>
<td>Supplier Performance</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>QAD Supply Chain Related Solutions</th>
<th>QAD DSCP (demand and supply chain planning)</th>
<th>QAD Supplier Portal</th>
</tr>
</thead>
<tbody>
<tr>
<td>QAD TMS (transporation management system)</td>
<td></td>
<td>QAD Warehousing</td>
</tr>
</tbody>
</table>

QAD Supply Chain supports supply networks with enhanced visibility, and the ability to drive margin and cost improvements, reduce lead times, increase inventory turns and meet industry compliance requirements.

- **Improves margins**: Helps eliminate waste and reduces inventory
- **Drives the effective enterprise**: Promotes efficient business processes
- **Streamlines communication**: Customer and supplier portals simplify and speed communication
- **Increases responsiveness**: Faster access to information means faster response times

**Supply Chain Highlights**

**Distribution Requirements Planning (DRP)**: Intra-company demand planning allows companies to easily plan, manage, track and record costs associated with the transfer of items between sites.

**Enterprise Operations Planning (EOP)**: Supports the highest level of S&OP and integrates with planning and scheduling.

**Global Requisition System**: Manages requisition entry and approval. It provides electronic notifications and enforces company policies on all direct and MRO requisitions.

**Purchasing**: Automates all phases of procurement from requisitioning, supplier scheduling, through purchase order creation and printing, to recording the receipt of goods and services.
Supplier Consignment: Manages and tracks consigned inventory received from suppliers in a Vendor Managed Inventory (VMI) model or sent to customers from—receipt to inventory to consumption—and creates triggers for payment processing.

Supplier Performance: Monitors and reports supplier performance against defined metrics and key indicators, enabling constant monitoring and dialog with suppliers about quality and performance.

QAD DSCP (demand and supply chain planning): Helps manufacturers develop demand and supply plans collaboratively, ensuring synchronization between strategy and operations.

QAD TMS (transportation management system): Provides a complete set of tools to optimize shipments by air, sea, parcel, truckload or less than truckload. It also provides international documentation and supports compliance with international trade regulations.

QAD Supplier Portal: Collaborative portal communicates demand changes in real time and tracks the flow of orders and shipments using ASNs.

QAD Warehousing: Provides the ability to manage complex warehouses, high volume picking and fulfillment, and complex space management.

Partner Products

Numeric Computer Systems, Inc. (NCS) Route Management System (eRMS) provides Route Accounting and Settlement solution, including preconfigured DSD applications for in-store tasks, including route sales, delivery, merchandising, pre-sales and full-line vending. It provides for creation of unique localization business rules, workflow and services, and enables mobile devices.
Service and Support

QAD Service and Support product suite enables exceptional after-sale service and support. The suite covers all aspects of tracking and support for equipment after manufacture, from installation to on-site or warranty repair, and manages engineer/technician schedules, warranty/service contracts and records of installed base configuration.

Designed to ensure customer satisfaction, QAD Service and Support suite resolves service calls, manages service queues and organizes mobile field resources.

Companies need to systematically manage all interactions related to the support, maintenance and repair of products; grow revenue and reduce service costs. QAD Enterprise Applications provides tools for warranty and service contracts, spares management and after-sale services.

- **Improve technician effectiveness:** Assign tasks to the nearest tech with the right skill to resolve an issue, maximizing customer satisfaction and minimizing technician travel

- **Control and reduce warranty and service contract costs:** Automatically bill for labor and parts on out-of-warranty service calls and know revision levels of installed equipment so technicians can bring the right service parts the first time

**QAD Service and Support Highlights**

**Service & Support Management:** Manages installation, ongoing support, maintenance and repair of products including coverage by warranty or service contracts, and tracks engineering resources.

**Field Service Scheduler:** Helps reduce costs and improve customer service by improving service engineers’ productivity and optimizing other resources in the field.

**Mobile Field Service:** PC-based application that allows field engineers to log in remotely to record activities from a customer site driving improved customer service and field productivity.
Analytics

QAD Analytics enables companies to become effective enterprises by monitoring performance against defined key metrics and key indicators. It provides reporting any way the user wants, from basic reporting through simple browses, to user portals or complex OLAP analysis—all in real time. It allows users to view trends and drill down into detailed data from multiple sources, providing the flexibility and accuracy to quickly make fact-based decisions, and to analyze and share critical information.

- **Drive performance to strategic metrics**: Monitors and reports performance against defined strategic effective enterprise metrics
- **Improve business performance**: Provides visibility into performance trends against strategic goals
- **Reduce business risks**: Identifies issues before they become problems to keep processes running at peak performance
- **Streamlined reporting**: Consolidates data from multiple sources and provides a single point to view information, simplifying analysis
- **Produce forms and outputs**: Allows users to format common forms in WYSIWYG (What You See Is What You Get)

**QAD Enterprise Applications Analytics Highlights**

**Operational Metrics**: Provides a single point of view to key enterprise performance measures and helps identify issues before they become problems.

**Reporting Framework**: QAD’s Reporting Framework enables manufacturers to quickly create and produce forms and reports. It includes an intuitive drag and-drop designer, a viewer and a batch scheduler. It allows flexibility in both data sources and output formats.

**Embedded Analytics**: Integrates analytic content and capabilities within business process applications. It provides relevant information and user specific analytical tools, so users can work smarter and more efficiently within QAD Enterprise Applications.

**Business Intelligence**: QAD Business Intelligence unifies data from multiple sources across the enterprise, providing a comprehensive solution that enables key enterprise decision makers to access, analyze and share critical information.
**Mobile**: Enables the access of analytics and performance information from mobile devices including drill down capabilities and flexible search criteria.

**QAD BI Data Warehouse Designer**: Allows data consolidation, optimization, multi-currency consolidation, support for database maintenance tasks and impact analysis, and provides a single repository for transformation logic.

**QAD BI Modules**: Integrates with QAD apps out of the box and organizes data access without complex database queries and programming resources.

**QAD BI Portal**: Enables decision makers to create and reuse secure dashboard components placing critical data at their fingertips.
Interoperability

<table>
<thead>
<tr>
<th>Interoperability</th>
<th>Q-Xtend</th>
<th>Integrated Customization Toolkit</th>
</tr>
</thead>
<tbody>
<tr>
<td>QAD Cloud EDI</td>
<td></td>
<td>EDI eCommerce</td>
</tr>
<tr>
<td>QAD Boomi AtomSphere</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

QAD Interoperability solutions are available at many layers throughout the solution. They enable enterprise and trading partner applications to interoperate seamlessly with QAD Enterprise Applications. This robust solution set relies on standard business rules. It simplifies the upgrade process and enables integration without coding.

- **Reduce costs of integrating multiple systems:** Automatically synchronizes with no coding required
- **Ensure consistent information:** Ensures systems remain in sync with data repository
- **Desktop integration:** Seamlessly transfers information from common desktop applications like Microsoft Office and Excel

**QAD Enterprise Applications Interoperability Highlights**

**Q-Xtend:** QAD Q-Xtend is an application-to-application (A2A) integration toolset that enables enterprise applications to interoperate seamlessly with the complete QAD Enterprise Applications suite without coding. Q-Xtend serves as the “adapter” between QAD and other enterprise applications, automating critical tasks such as data synchronization and eliminating the burden of maintaining custom interfaces and manual data entry.

**Integrated Customization Toolkit (ICT):** Enables manufacturers to design and develop customizations in a non-intrusive way, helping to eliminate or limit changes to the standard applications. ICT helps speed the development of customizations and reduces lifecycle support costs, while maintaining high standards for customization.

**QAD Cloud EDI:** QAD Cloud EDI provides EDI translation and communication services that complement the QAD EDI eCommerce offering to provide a full end-to-end solution simplifying global e-commerce and collaboration with trading partners across the value chain.

**EDI eCommerce:** Provides a streamlined method for managing EDI communications between trading partners, including an end-to-end integration broker for B2B communications. QAD’s EDI eCommerce module supports multiple parallel EDI documents depending on trading partner or Value-added Network (VAN) provider.

**QAD Boomi AtomSphere:** Enables QAD customers to securely connect Software-as-a-Service (SaaS), private cloud and on-premise applications to QAD Enterprise
Applications without requiring new hardware. QAD Boomi AtomSphere cloud makes it
easier to build, deploy and manage process and data integrations to QAD Enterprise
Applications

**Partner Products**

**Dell / Boomi AtomSphere:** Provides an on-demand multi-tenant cloud integration
platform for connecting cloud and on-premises applications and data.

**IBM Sterling (Gentran) Integration Suite:** Provides integration with a VAN or Gateway
platform for electronic messaging, including electronic data interchange (EDI) and
XML.

**Roundtable Software:** Delivers software configuration management.
Process and Performance

Underperforming business services can seriously affect a company’s ability to support its strategic goals and objectives. Identifying notoriously hard to identify performance issues in a timely manner is critical to a company’s success.

- **Identify and address issues** before a crisis develops
- **Identify usage patterns** and performance bottlenecks
- **Continuous** application, system and network **monitoring**
- **Configure business processes**
- **User definable work flows**

**QAD Process and Performance Highlights**

**QAD Workflow Alerts**

QAD Workflow Alerts monitors daily business activity helping manufacturers to manage by exception. It provides notification using real-time alerts of any exceptional events in key business processes, allowing for decisive and prompt corrective action.

**QAD Performance Monitoring Framework**

QAD’s Performance Monitoring Framework allows continuous monitoring of customer’s servers and QAD Enterprise Applications, providing system transparency and baseline performance data. Its continuous monitoring enables customers to plan preemptive actions that help prevent application downtime and optimize application performance.

QAD Performance Monitoring Framework enables customers to observe performance patterns and trends over time, giving a historical overview of a system and providing notifications of exceptions to the baseline measurements.

**QAD Business Process Management**

QAD Business Process Management employs methods, policies, metrics, management practices and software tools to continuously optimize processes and improve company performance. It provides a complete suite of tools that visualizes controls and automates the execution of business processes in QAD Enterprise Applications.
QAD Enterprise Applications by Process

The efficiency of a company’s business processes plays a strong role in how well the business will perform. QAD strives to help its customers become effective enterprises, by enabling their processes to operate at peak efficiency and align perfectly with their strategic goals.

- **Measure performance to improve**: QAD provides a complete set of effective enterprise metrics in composite scorecards by industry and process
- **Simplify user training**: QAD process maps link directly to the software so users get a clear picture of the entire process
- **Achieve faster ROI**: Process maps help users visualize the flow of information so implementation and go-live are faster
- **Comply with regulatory requirements**: Documenting processes can help achieve ISO, SOX, FDA or other regulatory certifications

**Business Processes**

**Design**

QAD Enterprise Applications provide design aids such as engineering bill of materials, engineering change notice (ECN) processing, flexible cost sets, and communication tools like collaborative forecasting, and the supplier portal to help gather input and ensure new products achieve profitability, manufacturability and market acceptance.

**Draw on trading partner knowledge**: Customers and suppliers are key stakeholders in the design of new ideas and manufacturing methods. Collaborative tools help the company benefit from suppliers’ expertise.

**Rationalize product catalogs**: Analyze products and product line profitability; reuse common components.
Minimize inventory investment: Configured products, modular assemblies and reuse of common components help minimize inventory while ensuring maximum flexibility to meet demand.

Effective Enterprise Best Practices

- Use collaboration tools to help assist distributed teams to participate in the design process
- Leverage suppliers to drive innovation through joint ventures
- Design for ease of production (CAD, CAM)
- Reuse common components across products and product lines to help simplify the supplier base, reduce inventory costs and potential stock outs
- Segregate pending product changes from the active database
- Clearly define the design change approval process
- Transmit design information and changes instantly to all downstream functions and throughout the supply chain
- Single source product design data

Effective Enterprise Metrics

- Time to design an item of certain complexity (development efficiencies)
- Quality in terms of number of errors and rework
- Cost per Engineering Change Order (ECO)
- Number of ECOs
- Configured order accuracy
Plan

QAD Enterprise Applications offer planning tools that help companies become a more effective enterprise. QAD Enterprise Applications provides a planning tool for every phase of the operation including distribution resource planning, inventory rationalization across plants, shop floor optimization and service part optimization.

**Align strategic objectives with operations execution:** Ensure forecasts and master schedules meet the company’s objectives for service levels, inventory balances and resource consumption.

**Balance supply and demand:** Forecast algorithms coupled with collaborative input ensure demand forecasts are as accurate as possible; supplier portal ensures supply chain issues are visible in time to prevent production disruptions.

**Make confident decisions:** Dashboards and browses provide information fast—whenever needed—to support decisions based on facts, not guesswork.

**Effective Enterprise Best Practices**

- Visibility across the global supply chain
- Collaborative forecasting with multiple stakeholders
- Optimized order quantities based on order multiples such as case quantities and economic order quantity (EOQ)
- Use sales and operations planning to align supply and demand
- Multiple statistical forecasting methods and cross-validation using causal factors
- Multi-entity, multi-enterprise planning

© QAD Inc.
• Inventory stocked at the “feature” level, to enhance flexibility

**Effective Enterprise Metrics**

• Order fill rates
• Forecast cycle time
• Planning cycle
• Premium freight charges
• Equipment capacity utilization equipment
• Cost of WIP in queue at work centers
• Perfect order fills
• Unplanned overtime

**Source**

QAD Enterprise Applications provide tools for effective sourcing across complex global supply chains.

**Improve quality and reduce inventory**: Supplier performance reports keep suppliers on their toes. Quality reports manage testing procedures and results. Supplier portal improves communication to smooth out supply and demand fluctuations.

**Drive profitability**: Effective sourcing provides materials and parts at the lowest cost and with the highest quality consistent with delivery requirements. High quality, low cost parts received on time keep scrap, rework and downtime costs low.

**Sub-contract effectively**: Sub-contracting is one of the most complex sourcing tasks. It involves quality, price, delivery and the added challenges of capacity and materials planning.
Effective Enterprise Best Practices

- Full visibility of demand and supply
- Use consignment agreements to reduce assets and cycle time while increasing availability of critical items
- Use supplier certification programs to reduce or eliminate inspection of received materials
- Use RFID and bar coding to minimize handling time and maximize data accuracy
- Build sustainable collaborative partnerships with key suppliers

Effective Enterprise Metrics

- Supplier performance ratings
- Value of assets provided by supplier (cost avoided by the company)
- Supplier acquisition cost
- Cost to source product
- Degree and frequency of demonstrated flexibility or responsiveness
- Percent of scheduled product deliveries communicated via EDI
- Time and cost related to expediting the sourcing process
- Perfect purchase order fulfillment
- Purchase price variance

Make

QAD Enterprise Applications help effective enterprises respond to changing demand, conform to regulatory requirements and control shop floor activities. Whether manufacturers are discrete, process or mixed-mode, whether they use work orders or
rate-based schedules, manufacturing companies must flexibly and continuously improve operations.

**Streamline track and trace recording:** Tracking and tracing is required in many industries. Flexible serial tracking, eSignatures and audit trails can simplify the process and improve operational efficiency.

**Adopt lean principles:** Minimal inventory delivered just in time, foolproof processes and continuous improvement all are basic tenets of lean. Adopting even a few lean principles allows the company to reap the benefits of lower costs and higher throughput.

**Configure products to order:** Reduces finished goods inventory, shortens delivery lead times, improves customer satisfaction and increases manufacturing flexibility.

**Effective Enterprise Best Practices**

- Regular monitoring, measurement and analysis of performance metrics
- Well-defined, understood and documented performance metrics
- Stable, repeatable and predictable processes
- Production planning systems dynamically incorporate last minute changes in requirements when generating production schedules
- Serial traceability process that meets customer, industry, government, and/or international standards
- Bidirectional communication and data exchange with suppliers, sub-contractors and service providers
- Lean Manufacturing

**Effective Enterprise Metrics**

- Plant capacity utilization
- Manufacturing errors
- Planned downtime for maintenance
- Overhead as a percentage of direct costs
- Cost per part
- Defective parts
Engage

QAD Enterprise Applications provide tools for every phase of the customer life cycle from quotations and RFQs to order and delivery through after-sale service and support. Customers can choose self-service options, EDI or traditional communication channels, and QAD Enterprise Applications give a complete view of the customer.

**Improve response time:** Customers want information about order status, including inventory on hand, invoice or shipment information or pricing—and business systems must deliver this information whenever and however customers ask.

**Communicate through multiple channels:** Whether customers choose self-service, phone, fax, EDI or XML, QAD Enterprise Applications handle them all and provide a complete picture of the customer’s interactions with the company.

**Effective Enterprise Best Practices**
- Web orders integrated with pricing, ATP and back-end supply chain functions
- Complete capture of a customer’s interactions
- Integrated marketing, sales and customer service database
- Customer self-service to place orders and check status
- Customized configurations in quoting and order entry process

**Effective Enterprise Metrics**
- Lead-to-Customer conversion ratio
- Quote-to-Order conversion ratio
- Time to convert a lead to a customer
Time between customer call and company response
Cost of customer acquisition
Average time to resolve a customer issue
Campaign effectiveness by demographic, by product
Promotion effectiveness by demographic, by product

**Deliver**

Companies can have effective planning and execute flawlessly, but success hinges on how well they meet customer delivery schedules. QAD Enterprise Applications support every step of the delivery process from picking orders to least cost routings for shipments.

**Reduce invoice errors:** Automatically produce accurate invoices from shipments, including freight charges; generate international shipping documents automatically.

**Decrease freight charges:** Consolidate shipments, use least cost freight options and reduce dependence on premium freight methods.

**Eliminate non-value add steps:** Automatically print shipping labels, generate shipping documents, send advanced shipment notifications and reduce shipping errors and returns.

**Effective Enterprise Best Practices**

- Advanced ship notices to downstream distribution entities
- Bundling deliveries of different products into single shipments when possible
- Minimize non-value-added paperwork
- Advance planning to reduce expedited shipping
Effective Enterprise Metrics
- Invoicing accuracy
- Shipping accuracy
- On-time delivery
- Shipping cost per pound per mile by mode of transportation

Service

Companies need to manage all interactions related to product support and maintenance and repair, to grow revenue and reduce service costs. QAD Enterprise Applications provide tools for warranty and service contracts, spares management and after-sale services.

Improve technician effectiveness: Assign tasks to the nearest tech with the right skill to resolve an issue, maximizing customer satisfaction and minimizing technician travel.

Control and reduce warranty and service contract costs: Automatically bill for labor and parts on out-of-warranty service calls and know revision levels of installed equipment so technicians can bring the right service parts the first time.

Effective Enterprise Best Practices
- Integrating handheld devices in real time
- Continuously improving measuring and monitoring of product installation and service

© QAD Inc.
• Maintaining a skills library to match the nearest technician to jobs to reduce travel and improve customer satisfaction
• Automatically billing labor and materials for out-of-warranty service calls
• Accessing revision levels of installed equipment to ensure bringing the right parts on initial service calls

Effective Enterprise Metrics
• Average number of service calls made per field engineer
• Field personnel utilization
• Average time per call
• Percentage of calls within or outside the SLA
• Elapsed time from when the customer first logs the call to final resolution
• Variances from expected technician time
• Ratio of visits/calls to resolve an issue

Finance
Global companies face challenges such as accommodating multiple languages and currencies, adhering to local business practices and remaining compliant with government regulations. QAD Enterprise Applications meet all these challenges.

**Comply with government and local regulations:** QAD design for internationalization handles different business processes and unique reporting regulations by site.

**Communicate in local languages across time zones:** QAD Enterprise Applications is in use in over 100 countries and available in 27 languages.

**Increase visibility of global profit status:** Utilize shared services and common business processes across sites or let every site design its own process. QAD Enterprise Applications can provide quick closing and flexible reporting.

**Streamline accounting procedures:** Consolidations, general ledger allocations and automatic cash application to invoices are just a few of the ways QAD Enterprise Applications helps companies streamline accounting tasks.

### Effective Enterprise Best Practices

- Seamless integration of finance processes with sales, distribution, planning and manufacturing
- Unified process to manage and control businesses at a local, regional and global level that supports consolidated reporting
- Financial decisions driven by fact-based analysis of past financial data and scenarios
- Multiple currencies for reporting and transacting
- Automating repetitive transactions such as periodic financial allocations
- Eliminating non-value-add transactions by adopting self-billing, automatic cash applications and consignment
- Utilize shared services for routine processes such as accounts payable and accounts receivable

### Effective Enterprise Metrics

- Days to complete a period-end close
- Number of out-of-compliance incidents in a period
- Time to generate financial reports
- Average collection period (or Days Sales Outstanding)
- Average number of days to complete a payment transaction
Manufacturers and distributors comprehensively plan, source, make and deliver products during their day-to-day business operations. The challenge lies in ensuring that they have best-in-class processes and systems in place to help optimize their operations.

**Common Issues**

- Lack of rigor in defining and implementing best-in-class business processes
- Lack of an integrated ERP system that supports all business processes
- Lack of best-in-class or industry specific processes embedded within the ERP or other enterprise systems

**Enable Compliance:** Companies need to have processes and systems in place to limit risk, comply with reporting requirements and ensure that actions will not conflict with any laws. Automated, centralized and standardized processes help to limit risk and compliance costs.

**Enable Quality:** Quality processes and systems should support test planning, in-process testing, industry standards, international regulations and best practices. This includes ISO TS19649, ISO 9000, 9001, advanced product quality planning (APQP), corrective action/preventive action (CAPA), production part approval process (PPAP) and e-Pedigree. It should encompass audits, document management, supplier quality, shop floor quality, and sales and PO receipt transactions.

**Enable EDI:** Electronic Data Interchange (EDI) has emerged as a common method for companies to automate business communications with trading partners. Companies require a standards-neutral system to support common business transactions such as sales orders, purchase orders, payments, receipts, customer consignment consumption, supplier drop ship (EMT), Kanban, inventory levels and scheduled customer releases.
Enable Asset Maintenance: Companies need processes and tools that enable them to operate plants more smoothly by keeping equipment running at the lowest cost. They need to manage capital projects to efficiently bring their assets "online" and then manage those assets through operational life and replacement, while minimizing lead times and MRO inventory costs.

Enable Schedules: Issuing individual purchase orders to suppliers is manually intensive, inefficient, unpredictable and prone to errors. A more effective way to manage frequent transactions is with schedules released against contracts or blanket orders.

Enable Projects: Companies need project management tools integrated with ERP systems, tied into financial systems and suited for planning and executing new equipment projects. Such tools should track capital, expense and customer funded spending, trigger milestone payments based on supplier schedules, trigger sales order shipment and invoicing, control spending against projects based on approved budget, break projects and budgets into sub-jobs for easier management and can reallocate budgets from one project to another.

Enable Transportation: Companies need an integrated process that manages international trade and ensures global regulatory compliance. With Transportation Management, organizations can easily control transactions for transportation, trade and compliance business processes from one system.

Enable Warehousing: Even though warehouse management processes and systems have matured, the pressure to increase the velocity of inventory through the warehouse remains. By implementing better logic, advanced algorithms and technologies such as RFID and Wi-Fi, manufacturers can maximize warehouse performance.

Enable Complex Pricing: Pricing plays a crucial role in determining sales volume and profitability. Pricing models should be flexible enough to accommodate a wide range of pricing situations, tailoring prices to the market conditions and customers to maximize profit. Pricing models must accommodate promotional campaigns or one-off, time-bound discounts.

Enable Consignment: Companies can lower inventory costs by having suppliers send materials on consignment. Companies may find competitive differentiation by sending customers inventory on consignment. Consignment inventory tracking is important in determining transfer of ownership and ensuring timely invoices.

Enable Serialization: Cradle-to-grave lot/serial number traceability through the materials system ensures the integrity and configuration management of critical parts and products. Tracking processes and systems should support compliance with regulations such as Waste Electrical and Electronic Equipment (WEEE) Recycling of Hazardous Substances (RoHS), and Hazard Analysis and Critical Control Point (HACCP), and provide traceability, control and status lots and e-Pedigree as mandated for compliance with Current Good Manufacturing Practices (cGMP) and similar regulations.
Enable Configuration: Mass customization has become a norm. Customers expect the exact product they want delivered to them as quickly as possible. The ability to allow customers to order configured products is a competitive differentiator, but it does not come without cost. Without the right tools in place, there can be added effort and an increase in errors throughout the supply chain. Companies must have processes and systems in place that allow them to design, manufacture and deliver configured products.
End-to-End Processes

Key End-to-End Processes

The best way to achieve operational efficiency is to look at an entire process, rather than each department optimizing its own productivity. QAD provides tools to effectively examine and manage end-to-end processes.

Quote to Cash

The quote-to-cash process describes all the steps involved from the initial quote or bid to the customer through fulfillment, invoicing and payment.

**Improve days sales outstanding:** Simplifying the quote-to-cash process reduces the time between paying for materials and receiving payment. Cash flow improves. Return on assets improves. The whole business becomes healthier and more profitable.

**Improve quote-to-order time:** By automating data flow from RFQ to quotation-to-order, companies move customer orders to production and shipment faster while eliminating manual data entry and reducing errors. Automatic pricing algorithms help ensure accuracy, maintain margins and reduce manual order approvals that delay orders.

**Automate invoicing and payments to eliminate non-value-added steps:** By invoicing automatically as shipments occur and applying cash to invoices automatically as it’s received, companies can significantly reduce the amount of time to access cash.
Procure to Pay

Procure-to-Pay covers sourcing through paying suppliers. Buying only the required materials at an acceptable quality and achieving on time delivery at a good price are the goals.

**Improve cash flow:** Demand visibility helps ensure timely purchase of required materials to keep operations flowing smoothly. Vendor managed inventory can help ensure the company pays only for materials used. Reducing scrap and rework cuts costs, while vendor performance reporting helps improve quality and delivery performance.

**Reduce inventory:** Having the right materials on hand to complete a job helps reduce inventory in queue at work centers, increase throughput and improve operational efficiency.

**Source strategically:** Monitoring supplier performance helps ensure that suppliers offer the best possible mix of price, quality and delivery to minimize supply chain disruptions, while maintaining cost controls and margins.

**Eliminate non-value-add processes:** Adopting methods like vendor managed inventory and evaluated receipts settlement helps enable users to focus on more strategic activities while keeping costs low.

**Capitalize on supplier knowledge to improve processes and designs:** Suppliers know their own processes better than anyone else. Often, they can provide key design tips or ordering suggestions that reduce overall costs and improve quality.
Make quality a key performance metric: Do not inject quality inspection into the process; make it a key selection criterion and work with suppliers on continuous improvement and performance metrics.

Plan to Perform

Plan-to-Perform includes sales forecasting, operational planning and execution against the plans.

Improve operational efficiency: Effective planning helps eliminate bottlenecks and ensures adequate materials and resources.

Balance forecasts and orders to production capacity: Sales and Operations Planning helps ensure that the company meets its corporate objectives, customers receive orders consistently and that production proceeds without costly unplanned overtime.

Ensure equipment is in top condition: Effective preventive maintenance based on actual production quantities or manufacturer’s recommendations can help minimize unplanned downtime, improve product quality and maximize predictable throughput.

Forecast with partners, customers and the sales force: Forecasting with input from multiple sources helps improve forecast accuracy, ensure product availability for promotions or marketing campaigns and minimize unexpected surprises.
QAD Implementation Methodology

QAD has worked with thousands of customers on business software implementations. During that time, we have earned a reputation as leaders in rapid implementation that provide customers quicker time-to-benefit from our solutions.

Easy On Boarding

QAD Easy On Boarding (EOB) is for companies seeking an industry-specific solution at a low cost of ownership. The methodology offers a predefined project scope, predictable costs and short implementation times. It enables companies to minimize their service and support costs and the burden on their IT staff. EOB provides customers a solution with built-in support for the best business practices in the industry, and a solution that can adapt and grow with requirements over time.

Easy On Boarding utilizes industry-specific best practices to accelerate every aspect of how customers deploy our applications. By using our predefined software components of QAD Enterprise Applications the EOB program reduces complexity, eliminates risk, accelerates decision-making, and enables the rapid implementation of a solution that best fits the company’s needs.

QAD Enterprise Applications, a world-class, fully integrated suite of software solutions, is designed to accommodate the needs of a new generation of software users. Customers can start small and grow as needed, adding solutions and users as it expands. Whether a company seeks to support new processes and business opportunities or to grow its business internationally with a single solution that supports...
multiple countries, languages and currencies, QAD can help transform your company.

**Key Benefits**

- Based on Industry best practices
- Fast implementation
- Faster realization of business benefits
- Low startup costs
- Less resource intensive
- Less intrusive
- Reduce/eliminate customizations
- Reduce training time
- Standardized way of working

QAD has worked with thousands of customers on projects to implement business software solutions. We have earned a reputation as leaders in rapid implementation.

**QAD Easy On Boarding Steps**

QAD has developed a set of simple guides and tools to make the process easy. QAD’s global support and consulting organization can engage at any time to keep the project on plan.

QAD Easy On Boarding consists of four steps: Plan, Design, Implement and Manage.

<table>
<thead>
<tr>
<th>QAD Easy On Boarding Phases</th>
<th>Month 1</th>
<th>Month x</th>
<th>Month y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manage</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Plan**

**Set the Schedule**

The QAD services team can help determine a reasonable schedule that meets the company’s needs and resources.

**Train the Project Team**
QAD has developed a comprehensive suite of e-learning tools covering concepts and operational training on how to use every aspect of the software.

**Develop Test Scenarios**

Test scenarios are an excellent way to configure the software to meet the company’s own unique processes and form the basis of a training program for users.

**Design**

**Finalize the Business Processes**

Modify process maps to standardize all the company’s business processes based on test scenarios and link directly to quality checklists, and training guides.

**Modify EDI Transactions, Standard Forms, Reports and User Screens**

Edit standard EDI transactions for specific trading partners. Add logos or other information to forms that are specific to the company’s business. Adjust reports to meet specific needs and modify screens to allow users to work most effectively.

**Run a Conference Room Pilot**

Conduct a conference room pilot using test scenarios. The conference room pilot will give users confidence that the system will perform as required on the first day of implementation.

**Implement**

**Train Users**

Attach a predefined learning path to each user who connects to the QAD Self Learning Portal for their self-study education and training program.

**Convert the Data**

QAD provides a set of simple spreadsheet-like tools to upload data to the new system. The system validates data at time of upload to guard against any poor or incomplete data getting into the system.

**Go Over the Final Checklist**

Before any project is finished, review the checklists provided to ensure that every step is complete and tested.

**Go Live**

Go live, and then celebrate!

**Manage**

**Monitor System Performance**

Monitor system performance and make any adjustments necessary. QAD Support is on hand to assist whenever needed.

**Train New Users**
New users will want to take advantage of QAD’s self-study programs to rapidly become as productive as possible.
**QAD Consulting**

QAD Consulting delivers solid industry expertise, proven best practices and unmatched implementation capabilities that ensure on-time deployment, fast ROI and maximum long-term benefit from QAD solutions. QAD Consulting operates as part of the extensive QAD ecosystem and can orchestrate consistent global rollout projects working with our customers and combinations of QAD certified partners to meet customers’ goals – anywhere.

Successful software deployments require experienced, knowledgeable resources that understand and can manage project scope, timelines and budget. Employing industry-specific best practices and empowering users with training and ongoing education minimizes implementation risk while maximizing system value.

With over 600 certified consultants in 26 countries, QAD Global Services provides global coverage and local expertise to help companies get the most from their QAD investment. By applying best practices specifically for manufacturers, QAD helps companies achieve rapid time-to-benefit and a superior ownership experience.

**QAD Extended Solution Services (QAD ESS)**

QAD ESS helps customers maximize the effectiveness of service operations, improve service delivery quality and reduce operational support costs. QAD ESS is provided in conjunction with standard QAD Cloud and QAD Support offerings including quarterly reviews, extended maintenance, operational support service management and QAD Cloud Services via QAD ESS.

**Migration and Upgrade Services**

QAD Consulting has years of experience and automated upgrade tools to help ensure a smooth and effective migration from previous releases to the most current version of QAD applications. QAD uses a set of industry best practices and offers a wide range of migration and upgrade services for customers.

**Business Consulting Services**

It’s often difficult to assess a business with limited resources for areas of improvement, cost savings and new opportunities. With our Discovery and Vision, QAD business consultants can quickly evaluate key business processes and identify areas to reduce costs and maximize operating cash flow, with minimal disruption to the company’s business.
**QAD Education**

**User Readiness**

A common challenge in all organizations is knowledge/skills attrition. Over time, personnel change roles, leave the organization or simply forget critical capabilities. At QAD, we focus on helping our customers to maintain peak system effectiveness through online training. We deliver a comprehensive range of online training, complete with a Learning Management System to track user completion. Additionally, we have a schedule of classroom training events around the world and can schedule bespoke training for our customers.

All training can be harnessed by conducting a Learning Q-Scan. A Learning Q-Scan is a predefined consulting engagement in which QAD Consulting assesses the gap between your users’ skills and the required skills, defines a learning path and loads it into the online QAD Learning Management System. The Learning Management System and access to online training are part of QAD’s support program and require no fee for customers on current maintenance contracts. QAD offers a variety of convenient, accessible and affordable training options.

**Online courses:** The Learning Center supports more than 300 online courses about QAD products and industry concepts, available at no charge to customers who are active on QAD Support.

**Classroom training:** Attend instructor-led courses that offer focused attention, hands-on exercises and knowledge transfer from subject matter experts.

**Certification programs:** Validate user’s knowledge and mastery of QAD product functionality through product exams.

**Custom courses:** Request tailored training on-site, to meet specific company needs and business processes, scheduled right when required.

**QAD Learning Center**

The QAD Learning Center is the one-stop destination for all QAD courses and training materials. Visit the Learning Center to:

- View training recommendations by job role
- Peruse online resources and the latest training guides
- Connect with virtual training environments to work directly with QAD Enterprise Applications
- Learn at your own pace, omitting or repeating activities as desired

**QAD Certification Program**

The QAD Certification Program provides QAD employees, business alliances and customer teams with a means of certifying the breadth and depth of their product
knowledge. This program also assures QAD customers working with QAD certified professionals are getting maximum value from their QAD software.

The QAD Certification Program encompasses a series of exams, which test knowledge of QAD Enterprise Applications core functionality in distribution, manufacturing and finance. Each exam takes approximately six hours to complete and consists of two parts. Part I requires hands-on work with QAD Enterprise Applications; Part II does not.

**QAD Product Documentation**

The QAD Online Support Center provides access to QAD documentation, including user guides, a glossary, release bulletins and technical references. Access to the QAD Download Center is available to QAD customers with active maintenance and support contracts.
QAD Customer Support

QAD Customer Support is a team of solution and technology experts, dedicated to helping QAD Enterprise Applications run smoothly. Our global network of local support centers gives 24/7 access to answers, in multiple languages, from agents with years of industry experience and in-depth knowledge of QAD solutions.

Quick problem resolution is conveniently accessible 365 days a year through our online self service resources. Remote access diagnostic tools, extensive searchable knowledge base, online documentation and training guides ensure fast time-to-value during implementation and beyond.

Access and Response
- Phone, web and chat access
- 24/7 critical system down support
- Global access to live support
- Remote access diagnostics
- Established incident response times based on severity

Online Self Service
- Unlimited and personalized Web Accounts for each employee
- QAD Knowledgebase
- Incident creation and tracking
- QAD Learning Center
- Product documentation library
- Product training guides
- QAD store & download center
- QAD license usage tool
- QAD forums

New Releases & Product Updates
- Major and minor releases and upgrades
- Product changes information system
- Proactive customer advisories
- Compatibility guide