

STANDALONE DEVICES AND TEST EQUIPMENT

Benefits

Achieve full serialization for as-built documentation and aftermarket

Improve supply chain governance and visibility

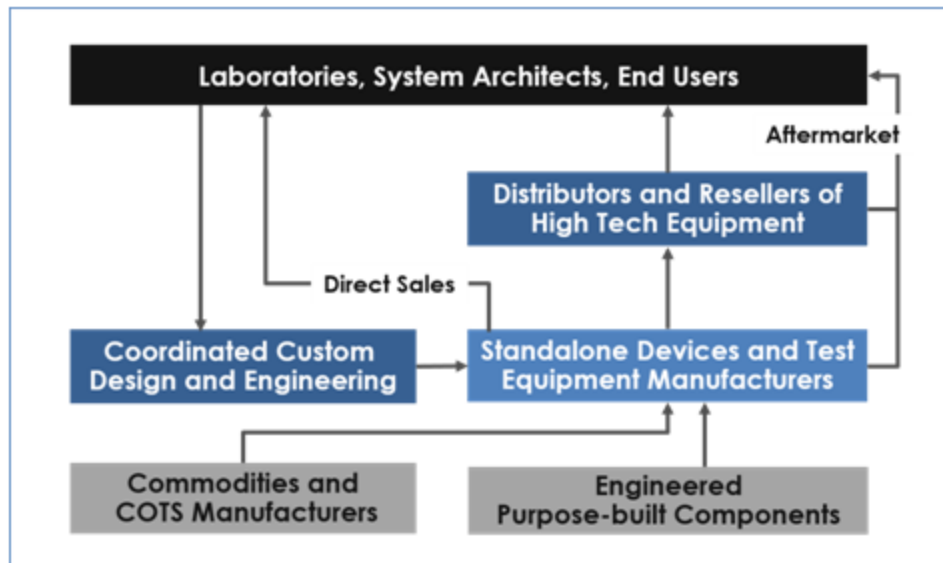
Establish consistent global processes and collaboration

Integrate quality directly into core business processes

Digitize management of customer and supplier orders through EDI

QAD offers a unique solution for manufacturers of standalone high-tech devices and test equipment. The solution includes the full-featured QAD [Cloud ERP](#) and several related capabilities that help manufacturers adapt to changing business requirements, improve forecast accuracy, drive greater operational efficiency and improve delivery in full on time (DIFOT), all while meeting their customer demands for greater feature sets and customization.

Standalone Devices and Test Equipment Manufacturing Value Chain



Consumption by standalone devices and test equipment manufacturers includes both commodity items, commercial off-the-shelf materials and purpose-built components. There is a separate value chain for servicing end users that desire customization and often a significant aftermarket business.

Key features include demand planning, supply chain execution, quality management and

global financials. These and other capabilities help manufacturers control processes, reduce risk and modernize operations that align with business strategy.

Reduce manual costs and errors by automating complaint management and quality-related processes.

Reduce finished goods inventory and WIP by using sophisticated forecasting methods and detecting demand forecast changes as they happen.

Improve DIFOT through better supply chain insight and accurate inventory tracking.

Increase utilization through better material planning and handling.

QAD Standalone Devices and Test Equipment Manufacturing Solution Overview

Many products in the high-tech standalone devices and test equipment segment are made in relatively low volumes. The production process includes a fair amount of manual movement of the material between manual assembly processes that often require product and production order-specific work instructions. In some instances, production may require controlled product environments including clean rooms. Processing becomes more complicated as the product itself becomes more complex.

The products may have an intelligent board or set of advanced electronics. Some of the customers manufacture these electronics themselves while others outsource this specialized component. Products in this segment may also include multiple hydraulic, pneumatic or mechanical motion subsystems. Production runs require the kitting of components, and frequently require electrical integrity checks during various subprocesses. The on-board intelligent features require the loading or programming of firmware versions. Firmware may be burned onto a chip but is often field alterable through a programming interface or by replacing the chip or memory card.

The complexity of the bill of materials and the potentially high level of variation require a sophisticated integrated approach to planning and execution functions. Standalone devices and test equipment manufacturers closely monitor specific operational metrics and expect performance that helps them differentiate products. Key metrics include DIFOT, Capacity Utilization, Inventory Turns, Production Downtime, WIP levels and Reduced Manufacturing Cycle Time.

Manufacturers often differentiate products by technical features that require continuous investments in product development and constant modification of associated processes. The dynamic nature of these changes accentuates the need for integration and a solution that fosters continuous improvement – like the QAD solution. The following are the key capabilities of the QAD solution to help standalone devices and test equipment manufacturer address key issues:

Item Level Serialization

[QAD DSCP \(Demand and Supply Chain Planning\)](#)

[QAD QMS \(Quality Management System\)](#)

[QAD Supplier Portal – Supplier Management](#)

[Planning and Scheduling Workbenches](#)

Lot Trace Workbench

[QAD EAM \(Enterprise Asset Management\)](#)

[QAD BI \(Business intelligence\)](#)

[QAD Interoperability / EDI](#)

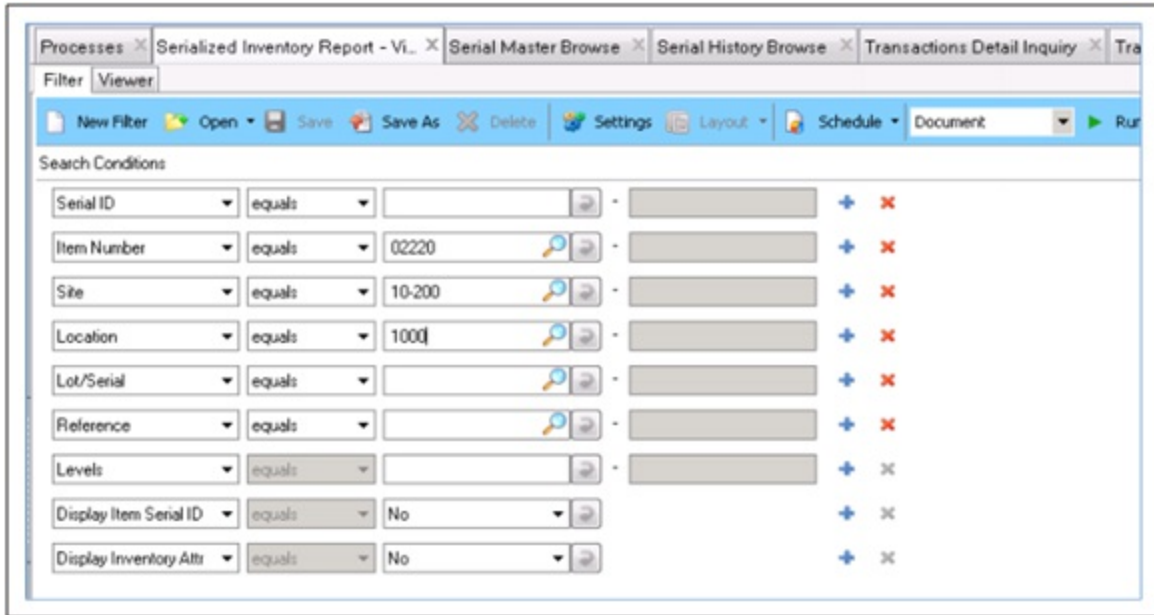
Overviews of the first three solutions areas listed above follow. For information about the rest of the solution areas, please visit QAD.com.

Item Level Serialization

Product complexity and associated product revision levels drive the requirement for unit level, electronic serialization needed by standalone devices and test equipment manufacturers. While driven by the expectations of their customers, manufacturers are also looking at the business benefit that can come with better visibility and overall operational improvement.

The QAD Item Level Serialization solution **addresses manufacturers' robust material traceability requirements**. Traceability can extend to final assemblies tied to subassemblies or lot identifiers for sourced components. **Information about products and inventory movements stored in each of these logistic units are all captured and accessible through a serial ID.**

Serialized Inventory Report

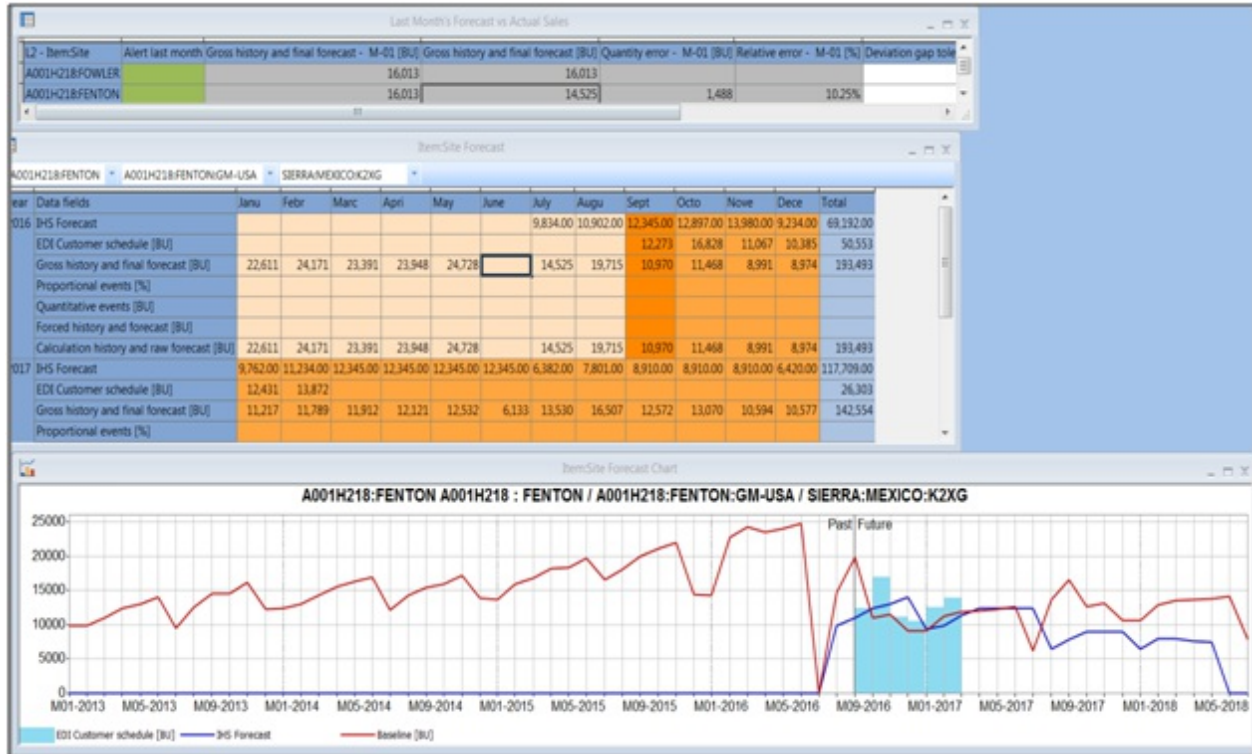


QAD DSCP (Demand and Supply Chain Planning)

QAD DSCP (Demand and Supply Chain Planning) provides tools to build and **manage better forecasts by improving data reliability and accuracy due to collaboration** between all those involved in the forecasting process. Standalone devices and test equipment manufacturers can manage forecasts at any level – customer, item, group or family – with input from a variety of sources including sales representatives, customers, marketing and finance.

QAD Demand Planning, part of QAD DSCP, **creates sales forecasts based on historical, market analysis and customer production data**. Exceptional events such as holiday shutdowns can also be input. QAD DSCP uses **sophisticated statistical modeling** to pinpoint statistical anomalies that can skew demand. The models can smooth historical data if applicable, determine the effect of exceptional events and generate a forecast for each individual item, automatically selecting the best-fit statistical model.

QAD DSCP Two-year Production Plan based on Multiple Data and Departmental Sources



QAD QMS (Quality Management System)

Quality control in a high tech standalone devices and test equipment manufacturing environment is often an integral part of the operation. Standalone manufacturers typically have electrical and other system inspections at varying stages of the assembly process to assure satisfactory functionality prior to additional value-added [manufacturing](#) operations.

QAD Item Attributes and Quality Control allow for attributes that are tracked at the lot level when an item is received from a supplier. Item Attributes supports complete traceability at the lot and attribute level for anything bought, sold or produced.

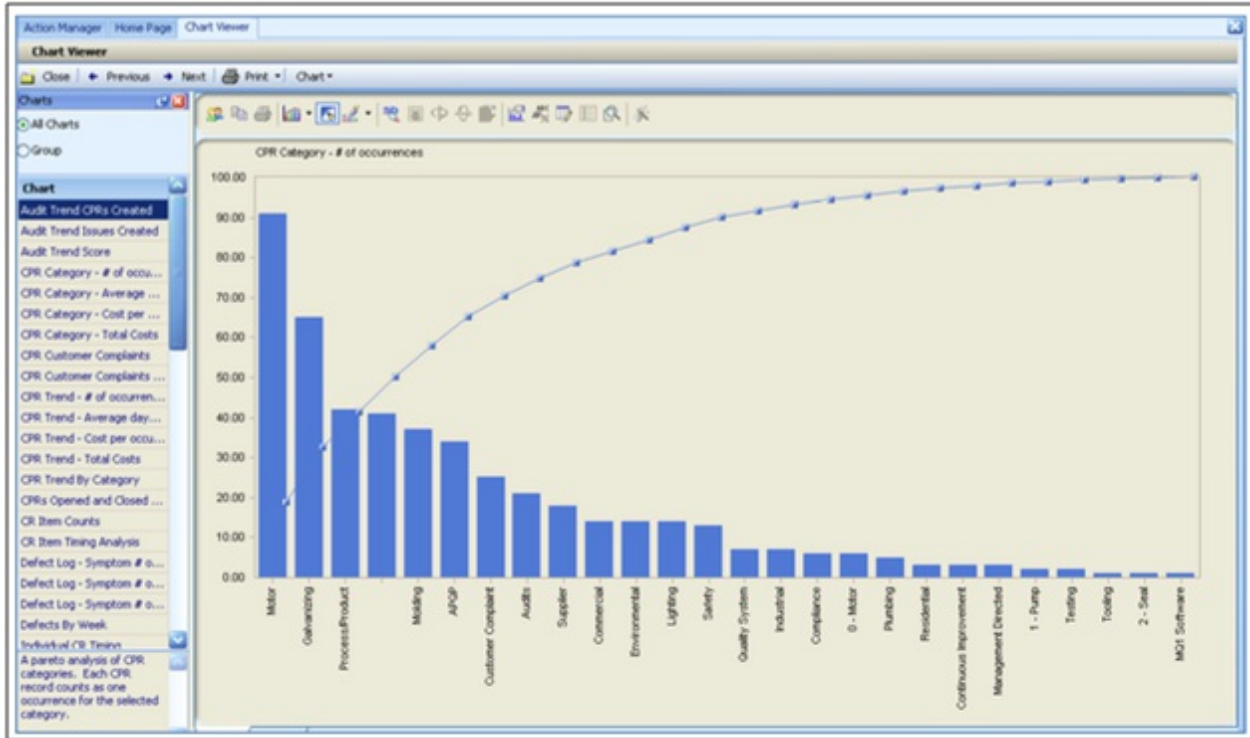
QAD QMS further **supports the integration of quality planning efforts whether through formal APQP or other manufacturer-developed standard operating procedures.** QAD QMS supports the management of quality information in terms of both specifications and supporting documentation. This integration allows manufacturers to integrate related process data, automate required business processes, and comply with design and customer specifications.

QAD QMS offers a complete suite of automation tools to manage quality systems, including:

- Document Control for the central storage and management of controlled documents, including approval workflow, archiving and audit trail
- CAPA/NCR to provide an automated closed loop solution for problem resolution
- Employee Training for the management and qualification of key personnel
- Audits to support both internal and external auditing

- Inspection and Statistical Process Control to document and automate processes around inspections

QAD QMS Defect Tracking Analytics



For more information on how the QAD solution for high-tech standalone devices and equipment manufacturing can help your company, please contact QAD at +1-805- 566-6100 or email info@qad.com.