

## Quality Control of your Products in Dynamics AX2012 With Total Quality Control Management



## *A puzzle isn't right if the last piece doesn't fit*

You buy, make, and sell your products in Dynamics AX. Consider the advantages of an advanced Quality Management Solution built right within Dynamics AX.



## *TQCM is the answer*

TQCM is not a separate software solution. It operates right within Microsoft Dynamics AX making quality control a solution within ERP, not a bolt-on. This means that sampling plans, inspections, and CAPA are part of the ERP process as is manufacturing. TQCM is a module within Dynamics AX and operates in the same database and instance. And it is developed with the same tool set that Microsoft uses. Since it's a Dynamics AX module, TQCM inherits the core features of Dynamics AX including user setup, security, report writers, and same interface. You'll come up to speed quicker with our integrated solution and more importantly, you'll implement at a much lower cost.

### Key Capabilities

#### **Sampling Plans to Worldwide Standards**

TQCM for Dynamics AX supports ANSI Z1.4, ISO 2859-1, and NIST Series 6

#### **CAPA/NCR**

TQCM supports both ISO and 8D Corrective and Preventative Actions. Along with Nonconformance Reports that can be automatically generated from inspections, ISO audits, and customer complaints.

#### **Instrument and Tool Calibration Table**

Automatic scheduling for preventative maintenance and calibration of instruments by date and use requirements.

#### **Reporting and Graphics**

Key indicator reporting including Variable control charting, pareto charting, parts per million analysis, and vendor performance.

#### **Integrated Auditing**

Department and process audits are easily setup by facility and can be scheduled to automatically create planned audits with advanced notifications. Audit plans and audit steps are stored in the audit table and feature integration to nonconformance and corrective actions.

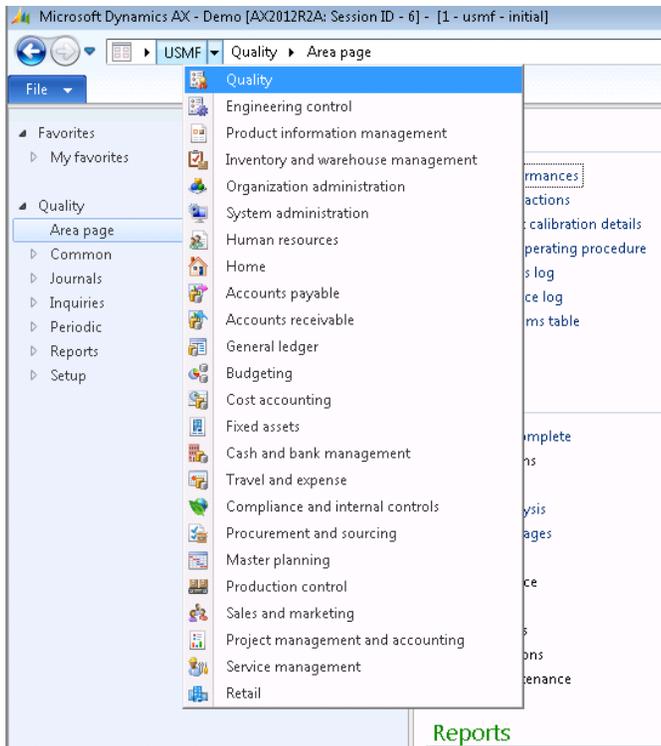
#### **Customer Complaints**

Customer complaints is a full featured solution including call-in-scripts to assist customer service. Including complaint rational with investigations and escalation to nonconforming conditions and CAPA. Seamless integration to customers and return orders.

## It's Dynamics AX

TQCM is designed specifically for Dynamics AX. We use the same standards and the same development tools as Microsoft. So it's the same interface.

And since it's the same interface as your other Dynamics AX modules, your users will find it is easy to learn, easy to use.

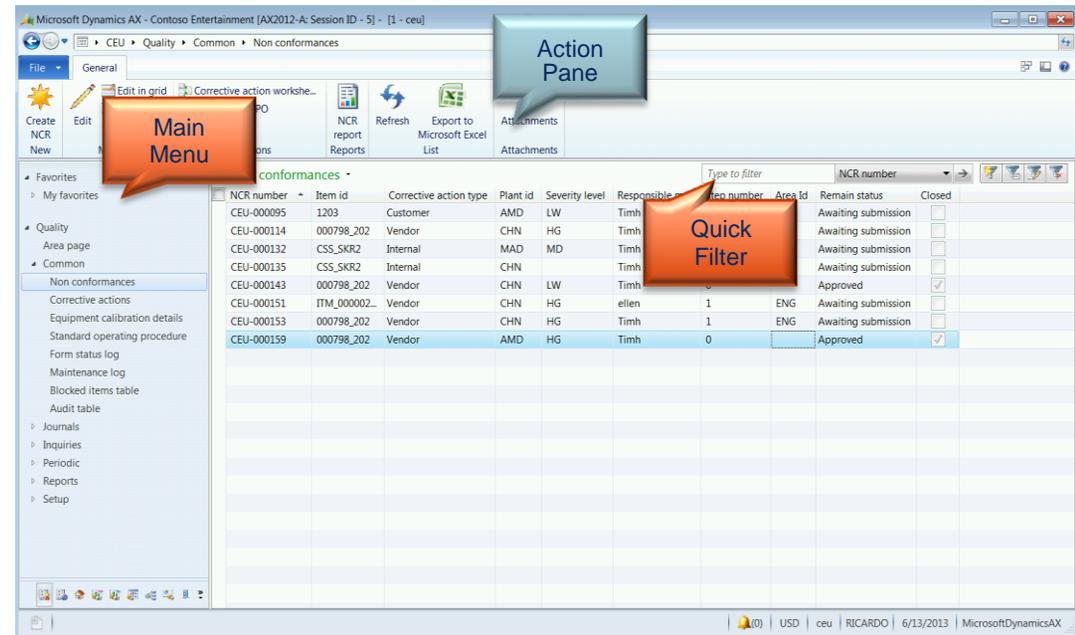


## A solution you already know

Integration is a term loosely used to imply compatibility. But through the Dynamics AX Framework integration for TQCM means it's an integral module right within Dynamics AX. There is no data to translate or to pass between TQCM and Dynamics AX. It installs within Dynamics AX and the application source code is embedded into the Dynamics AX Application Object Tree, just like other modules in Dynamics AX.

### Train Users Faster

Dynamics AX users will learn TQCM quickly. That's because the user interface conforms to the high standards of Microsoft for Dynamics AX. TQCM is the same familiar interface your users are accustomed to. It uses the same ribbon, action and menu panes found in Dynamics AX and Microsoft Office. Users come up to speed faster meaning you save money and reduce the time required for implementation.



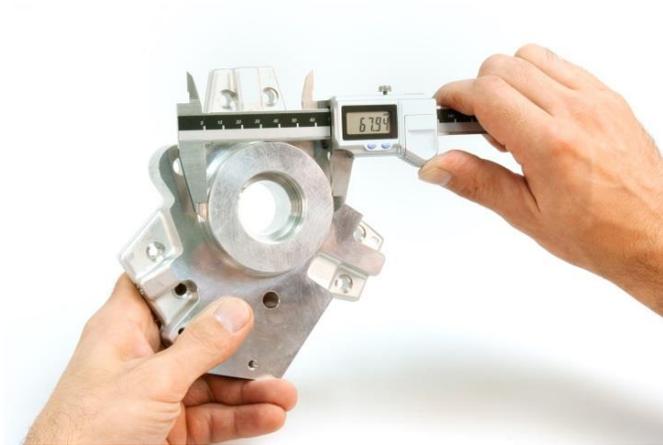
### It's your same Business Partner

Since TQCM is sold through a worldwide network of Microsoft Business Partners, you benefit from your partner's expertise that implemented and supported your Dynamics AX ERP System. ERP Solutions delivers world class solutions through partners that already know your business requirements. Our application design assures consistency for your users. And our mutual partner, who already supports you, guarantees your company continuity in services.

## Total Quality Control

TQCM provides a comprehensive approach to quality management through its imbedded architecture within Dynamics AX. You benefit from a wide range of functionality for quality control while drawing on the rich features of Dynamics AX.

Quality starts with a plan and TQCM insures that the plan is followed from purchase of raw materials and throughout the production process to delivery.



## Inspections

Inspections are performed in journals. And you can create plans from standards such as ANSI, ISO, or NIST. The inspection journal displays the information and as the results are entered the inspector is immediately notified if the actual information is in conformance. The lines in the grid can be color coded to make it more apparent to the operator if an observation is nonconforming. Inspection plans incorporate properties so more than one plan can hit a single item. And the plans are intelligent to know what vendors, operations, or customers require inspection. And when ANSI, ISO, or NIST are invoked, TQCM uses a method to qualify vendors for incoming inspections, operations for in process inspections, and customers for outgoing inspections.

Sample lot journal (1 - ceu) - Sample lot id: CEU-000004, 000798\_202, Transaction ID: CEU-000075

File Update Inquiries Reports Add lines

Sample lots Lines stc SPC data  
Quality authorization transactions  
Non conformance worksheet

AQL: 99.00 Status: Pass Acceptance number: 0  
Current defect qty: 0 Rejection number: 0

AQL type: % nonconforming LTPD type: % nonconforming

First article	Sample lot id	Description	Inspection qty	Minimum inspection quantity	Sample AQL	Pass lot
First article	CEU-000004	Transmission Spacer	3.00000	0.00000	0.00	No
Normal	CEU-000006	Material Harness	2.00000	0.00000	100.00	Yes

Equipment calibration det... Inventory

Lower specification limit: 0.00000 Lower control limit: 0.00000  
Upper specification limit: 0.00000 Upper control limit: 0.00000

Line number	Text	Description	Data/dimension	Actual data/dimension	Pass	Fail	-/Tolerance	+/Tolerance	Defective type code id	Sub defective type cod...	Batch num
1.0000000000	<input checked="" type="checkbox"/>	Check the surface area for pitting and defects	0.00000	0.00000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.00000	0.00000			000546
2.0000000000	<input checked="" type="checkbox"/>	Check the surface area for pitting and defects	0.00000	0.00000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.00000	0.00000	VD	SE	000546
3.0000000000	<input checked="" type="checkbox"/>	Check the surface area for pitting and defects	0.00000	0.00000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.00000	0.00000			000546
1.0000000000	<input type="checkbox"/>	Measure the thickness	0.50000	0.35000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-0.15000	0.00000	DIM	UD	000546
2.0000000000	<input type="checkbox"/>	Measure the thickness	0.50000	0.50000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.00000	0.00000			000546
3.0000000000	<input type="checkbox"/>	Measure the thickness	0.50000	0.20000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-0.30000	0.00000	DIM	UD	000546
1.0000000000	<input type="checkbox"/>	Measure the ID	1.50000	1.70000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0.00000	0.20000	DIM	OD	000546
2.0000000000	<input type="checkbox"/>	Measure the ID	1.50000	1.30000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-0.20000	0.00000	DIM	UD	000546
3.0000000000	<input type="checkbox"/>	Measure the ID	1.50000	1.80000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0.00000	0.30000	DIM	OD	000546
1.0000000000	<input type="checkbox"/>	Measure the Width	3.50000	3.30000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-0.20000	0.00000	DIM	UD	000546
2.0000000000	<input type="checkbox"/>	Measure the Width	3.50000	3.50000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.00000	0.00000			000546
3.0000000000	<input type="checkbox"/>	Measure the Width	3.50000	3.50000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.00000	0.00000			000546

### Additional Inspection Features

Document attachments for supporting materials.

Escalate a failed inspection to a nonconformance report.

*e-signature* approvals with optional CFR Part 11 compliance.

Automatic scrapping for destructive tests.

One click inspection reports and variable control charts.

Linking of appropriate instruments to observation lines with notifications of stopped instruments, or in calibration, and Risk Instrument Notifications.

ANSI Z1.4, ISO 2859-1, NIST Series 6, plus modified versions and complete user defined plans.

## Nonconformance material and processes

Nonconformance reports can be automatically generated from inspection processes and other areas of Dynamics AX. When created from inspections, the NCR inherits the information of the inspection results including defect codes. This provides the NCR administrator a complete snapshot of the nonconforming condition.

The NCR List Page provides a summary of all nonconformance reports. NCR's can be created from inspections, complaints, customers and vendors, return material, and department audits.

NCR number	Item id	Corrective action type	Plant id	Severity level	Responsible mgr	Step number	Area Id	Remain status	Closed
CEU-000007		SOP audit			Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000095	1203	Customer	AMD	LW	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000111	000798_202	Vendor	AMD	HG	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000112	Claro_1	Vendor	CHN	LW	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000113	Claro_1	Vendor	CHN	SF	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000114	000798_202	Vendor	CHN	HG	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000131	CSS_SKR2	Internal	MAD	LW	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000132	CSS_SKR2	Internal	MAD	MD	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000135	CSS_SKR2	Internal	CHN	MD	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000136	000798_202	Vendor	CHN	LW	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000139	000798_202	Vendor	MAD	LW	Timh	0		Approved	<input checked="" type="checkbox"/>
CEU-000140	000798_202	Vendor	AMD	SF	Timh	0		Approved	<input checked="" type="checkbox"/>
CEU-000141	000798_202	Vendor	MAD	LW	Timh	0		Approved	<input checked="" type="checkbox"/>
CEU-000142	000798_202	Vendor	CHN	LW	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000143	000798_202	Vendor	CHN	LW	Timh	0		Approved	<input checked="" type="checkbox"/>
CEU-000145	000798_202	Vendor	AMD	MD	Timh	1	ENG	Awaiting approval	<input type="checkbox"/>
CEU-000151	ITM_0000224	Vendor	CHN	HG	ellen	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000152		SOP audit	MAD	LW	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000153	000798_202	Vendor	CHN	HG	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000156	7034	Internal	AMD	LW	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000159	000798_202	Vendor	AMD	HG	Timh	0		Approved	<input checked="" type="checkbox"/>
CEU-000161	1001	Customer	CHN	LW	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>
CEU-000162	1401	Customer	CHN	MD	Timh	1	ENG	Awaiting submission	<input type="checkbox"/>

The NCR process is where you disposition material. An NCR can be escalated to a corrective action or emailed to a supplier. User defined workflow can be used for e-signatures to sign off and close the NCR upon completion.

## Nonconformance reports

The nonconformance process automatically generates nonconformance issues to the appropriate personnel for disposition and closure. These can be quickly generated from a process such as inspections or an audit. It provides the workplace with easy to use tools for personnel to properly disposition the material and issue.

### Additional Features

Task assignments for the NCR administrator to bring other personnel into the workflow for assistance when needed.

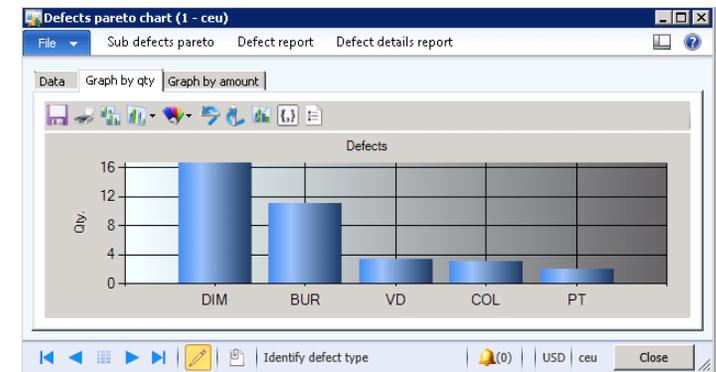
Disposition codes to disposition materials.

Escalation to a corrective action directly from the NCR Form.

User defined workflow with *e-signatures* (optional CFR part 11 *e-signatures* available) for completing and closure of an NCR.

Integration to inspections, customer complaints, auditing, shop floor, and other areas.

Email notifications and alerts.



Pareto Charting is a standard feature and a tool for evaluating and correcting quality issues. A Pareto Chart can be reported based up financial values or physical quantities.

## The CAPA process

Corrective and preventative actions are the method for continuous improvement of quality management. Through a comprehensive integrated solution; TQCM documents the entire process to resolve the issues with the appropriate corrective measures. The CAPA process can be configured to use a more simplistic ISO compliant format, or, the more comprehensive 8D (Disciplines) CAPA process. Powerful and flexible to meet your processes.

## Corrective and preventative actions

The List Page provides an overview of all corrective and preventative actions. CAPA's can be assigned to specific personnel to manage the overall objectives. Team members can be brought into the process and through standard AX workflow or through *CAPA Tasks*, and assignments can be generated for assistance from other employees. The process provides direct integration to other areas of AX meaning you have a single workplace to complete the objectives with quick access to other areas with a single mouse click.

CA id	CA motive	Description	Corrective action type	CA date	Step number	Remain status	Closed
CEU-000001	Reactive	Process Audit for review	SOP audit	8/20/20...	0	Approved	<input checked="" type="checkbox"/>
CEU-000002	Preventative	Machine is due for maintenance	Internal	8/23/20...	0	Awaiting approval	<input type="checkbox"/>
CEU-000004	Reactive	Vendor short shipped quantity	Vendor	8/28/20...	0	Awaiting submission	<input type="checkbox"/>
CEU-000005	Reactive	Lot failed inspection	Vendor	8/28/20...	0	Awaiting submission	<input type="checkbox"/>
CEU-000006	Reactive	Need to review vendors production methods and compliancy	Vendor	8/29/20...	0	Awaiting approval	<input type="checkbox"/>
CEU-000008	Reactive	Lot failed inspection	Vendor	9/12/20...	0	Awaiting approval	<input type="checkbox"/>
CEU-000011	Reactive	Customers order delivered late	Customer	3/6/2013	0	Awaiting submission	<input type="checkbox"/>
CEU-000012	Reactive	Lot failed inspection	Vendor	3/6/2013	0	Awaiting submission	<input type="checkbox"/>
CEU-000013	Reactive	Employee certifications have not been updated for this area	SOP audit	3/7/2013	0	Awaiting approval	<input type="checkbox"/>
CEU-000017	Preventative	Customers work instructions are out of date	Internal	4/30/20...	0	Approved	<input checked="" type="checkbox"/>
CEU-000018	Reactive	Customer audit due	Vendor	5/1/2013	0	Awaiting submission	<input type="checkbox"/>

### Additional Features

Document attachments for supporting materials.

Full 8D (Disciplines) or simplified CAPA process.

Standard CAPA report and 8D report.

Department actions and research area.

Generate Engineering Changes Orders.

Integration to other areas of Dynamics AX including complaints, vendors, customers, production, etc.

User defined workflow with *e-signatures* (optional CFR part 11 *e-signatures* available) for completing and closure of a CAPA.

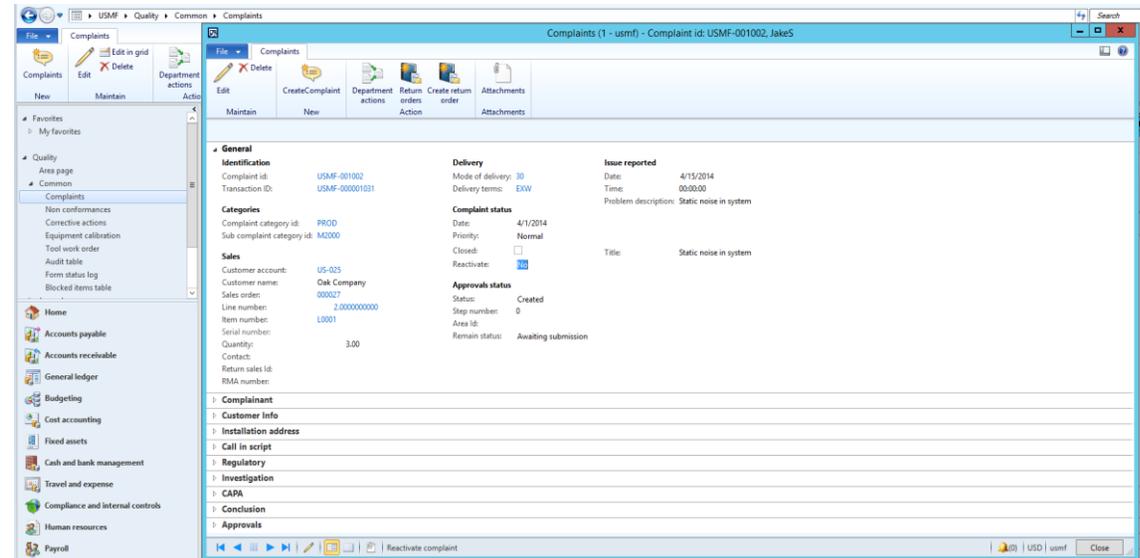
## Customer complaints matter

Often customers can be won or lost when they experience a problem with your product. And more directly, how you handle them when a problem occurs. Statistics show that the vast majority of customers will give you a second chance if you handle their complaint successfully and in a timely manner.

## Customer Complaints

Customer Complaints is a standard module within the TQCM suite. It provides rich and deep functionality into other areas of AX2012 to provide a central work area to effectively manage your customer complaints.

It provides a complete tool set to manage returns, regulatory considerations, investigations, conclusions with metrics for analytical purposes, and e-signature approvals with distribution lists.



### Additional Features

Escalation to Nonconformance and/or CAPA.

Task assignments.

Call-Scripts and Investigation-Scripts. Scripts can be created to provide the user the ability to deliver user defined questions by complaint categories or product.

User defined workflow with *e-signatures* (optional CFR part 11 *e-signatures* available) for completing and closure of Complaints.

## Managing instruments and tools

Instruments and gauges are easily managed through one central workplace. TQCM lets you know through an Icon when calibration is due, and you can easily configure a standard AX alert to email you and provide you a task at your role center.

Instruments are inspected through an inspection plan with the results recorded into the instruments transaction table.

## Instrument calibration

The instrument calibration table provides central control for maintaining calibration schedules and historical records for each instrument. It provides automation in letting you know when an instrument requires calibration and is integrated to the inspection process. This will warn the inspector if the instrument has missed its calibration due date, or if a Risk Instrument Notification is open. This provides the option to an inspector to use an alternative instrument.

### Additional Features

- Record instrument certificates and attach an image.

- Create Risk Instrument Notifications (RINs).

- Complete transactional history table recording all transactions against each instrument including each time the instrument is used for an observation within an inspection and when calibrated.

- Group instruments by vendor for external calibration scheduling.

- Group instruments by type.

- Automatic instrument stops when out for calibration.

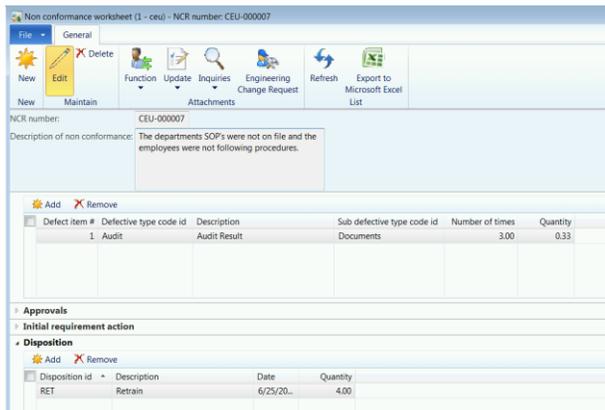
- Automatic creation of work orders upon instrument due date.

## Managing your processes

Managing vendors or your own internal processes, the audit table provides a central workplace where department or process audits can be automatically created, based upon scheduled due dates by facility. You can also create *Impromptu* audits at any time.

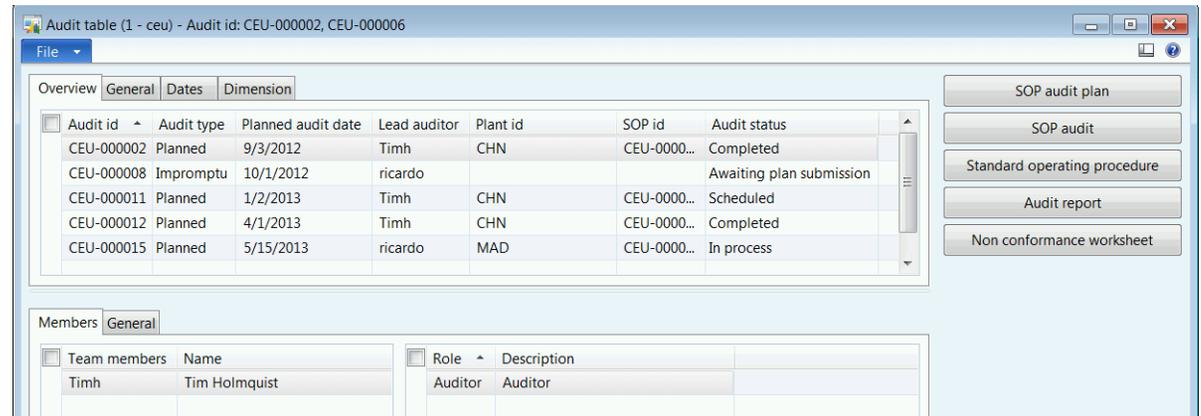
With the audit table, you create your plans and audit steps. And since an audit is directly integrated to the nonconformance and CAPA process, audit checks that fail can automatically generate the next control measures in the quality process.

Steps within an audit that fail can be processed through the NCR process and dispositioned. Defect codes can be associated and is available for reporting including Pareto charts. Preventative measures can be put in place through the CAPA process to insure that the corrections are in place.



## TQCM auditing

The audit table can be setup to automatically schedule audits based upon a predefined schedule. You create your audit plans and your audit check list within the audit table. Each audit plan is integrated to the nonconformance and CAPA process, so any steps that fail within an audit, can automatically generate the next level of compliance in your quality process.



### Additional Features

Association of audit team members and roles.

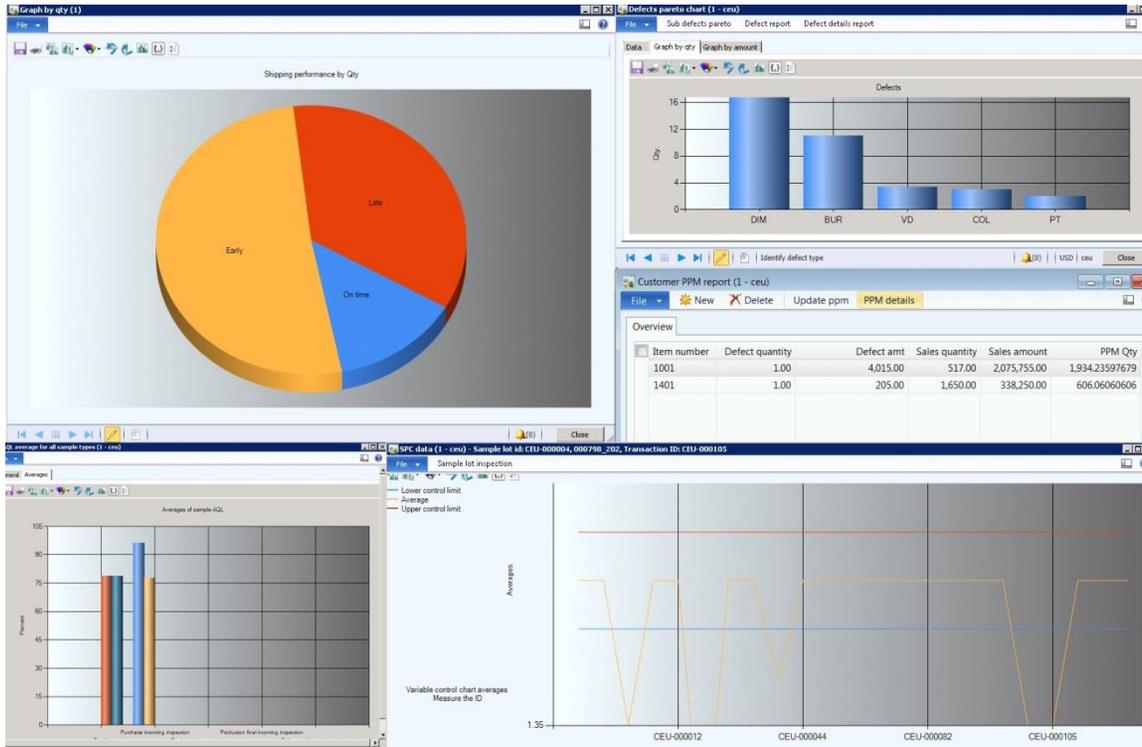
*e-signature* approvals (optional CFR part 11 *e-signatures* available).

Creation of audit plans and audit steps.

Audit status.

## Analysis

Reporting with graphical trend analysis gives you quick views of your quality processes.



Reports and graphics are integrated into Dynamics AX and the results can be quickly transferred to Microsoft Excel.

## Certificate of assurance

A certificate of assurance can be produced for each inspection type and produced on demand. The results and details of inspections are stored in the database and the details can be analyzed through the imbedded tool set or with external report writers and analytical tool sets.

Sample List id	Observation	Name	Base Data	Actual Data	Upper Control Limit	Lower Control Limit	Result
CEU-00004	Posted revision B	Test qty 2					
		Check the surface area for pitting and defects	0.00000	0.00000	0.00000	0.00000	Pass
		Measure the thickness	0.50000	0.50000	0.50000	0.50000	Pass
		Measure the ID	1.50000	1.50000	1.50000	1.45000	Pass
		Test AQL 100	3.50000	3.50000	0.00000	0.00000	Pass
		Standard AQL 99					
		Check the surface area for pitting and defects	0.00000	0.00000	0.00000	0.00000	Pass
		Measure the thickness	0.50000	0.50000	0.50000	0.50000	Pass
		Measure the ID	1.50000	1.50000	1.50000	1.45000	Pass
		Measure the VMIH	3.50000	3.50000	0.00000	0.00000	Pass
CEU-00006	Posted revision B	Test qty 3					
		Material Hardness Test	500.00000	500.00000	500.00000	499.95000	Pass
		Test qty 3					
		Material Hardness Test	500.00000	500.00000	500.00000	499.95000	Pass
		Test AQL 100	500.00000	500.00000	500.00000	499.95000	Pass
		Standard AQL 99					
CEU-00011	Posted revision A	Test qty 1					
		Check the surface for pitting	0.00000	0.00000	0.00000	0.00000	Pass
		Test qty 1					
		Check the surface for pitting	0.00000	0.00000	0.00000	0.00000	Pass
		Test AQL 100					
		Standard AQL 100					

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## ***ERP Solutions Enhancement Plan***

The Enhancement plan from ERP Solutions provides you protection to migrate to new versions of Dynamics AX along with free technical support.



Get top value for our solutions, protect your investment, and stay supported.

## ***Benefits at a Glance***

New version rights, hotfixes and service packs

Protected List Price and Transition Investment Credit. Guaranteed objects for new versions of Dynamics AX. Shields you from price increases so your annual enhancement fee remains stable.

Free manuals and training guides upon request.

License Mobility. Enables you to assign your license to service providers.

Free support direct with ERP Solutions.

[www.erpsolutions.biz/support](http://www.erpsolutions.biz/support)

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