TIP Technologies, Inc.
The difference between surviving and thriving

Presented by:
Mike Miller, Founder & CEO

Future Force Capabilities Conference

Integrated Quality Management Reduces Risk for Armament, Robotic, and Munitions Manufacturers

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The Benefits of an Integrated QMS

▶ Real-time Access to Quality and Manufacturing Data

▶ Control Over User Access

▶ Automate Critical Quality Processes

▶ Gain Visibility into Costs

▶ Effectively Collaborate with Suppliers

▶ Ensure Operational Excellence throughout Product Lifecycle

▶ Create a controlled environment where performance is repeatable and reliable.

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Facilitate Industry Compliance

► Compliance Auditing to Regulatory Standards

- Facilitate compliance with many regulatory requirements including ISO, ITAR, DFARS, FAA, AS9100D, MIL Standard.

- Measure against your established processes and procedures

- Using **a** QMS with supplier management capabilities, customers can effectively demonstrate compliance

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Streamline Quality Inspections

► Source Inspection

- Validate compliance with engineering drawings
- Test castings and forgings before firearm or robotic production begins

► First Article Inspection

- Test components against industry regulations

► Receiving Inspection

- Inspection steps can be revised and approved at the part number, part group, and commodity level
- Skip lot processing can be completed at the part/operation level

Supply Chain Challenges

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Supplier Ratings Address these Challenges

► Inadequate or Totally Lacking Supplier Rating System

► Adversarial Relationship with Suppliers

► Non-Objective Supplier Evaluation/Rating

► Paper-based Supplier Report Cards

► Inclusion of Supplier Caused Production Assembly Failures into Supplier's Rating

► Inclusion of PO Delivery concepts prior to actual delivery

► Sub-tier Supplier Management

► Uncovers performance trends & helps Identify Root Cause

Calculating Supplier Rating

Understanding the individual components, how they are calculated, and how they can potentially impact the blended ratings is critical to effective supplier quality management.

The following ratings can be considered and blended into a unified rating which can communicate the overall health of the supplier both internally and externally, as desired.

▶ Delivery Rating

▶ Receiving Inspection Quality Rating

▶ Nonconformance Rating

▶ Corrective Action Rating
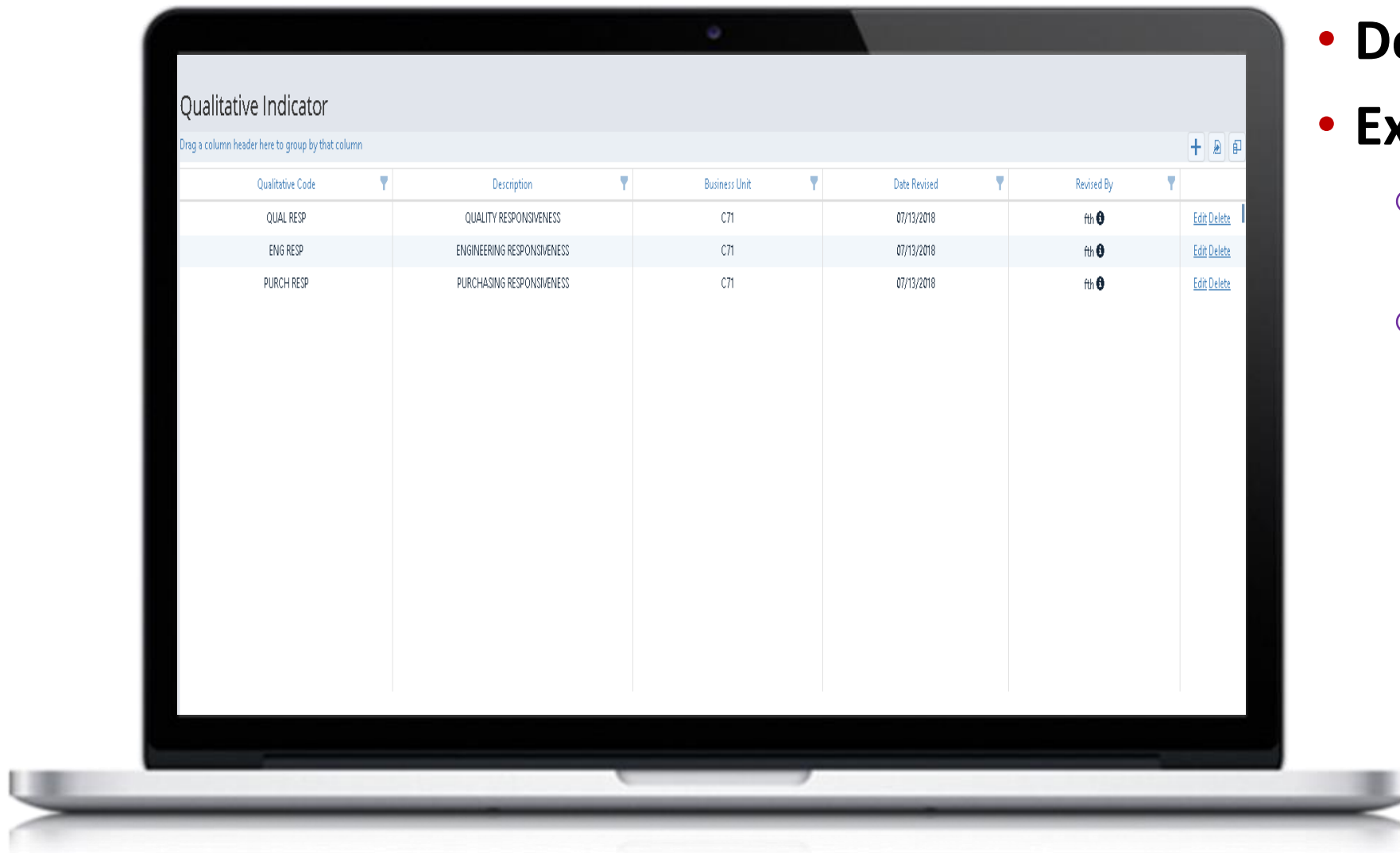
Qualitative Ratings

- **The "feel good" metrics**

- **Fuzzy logic**
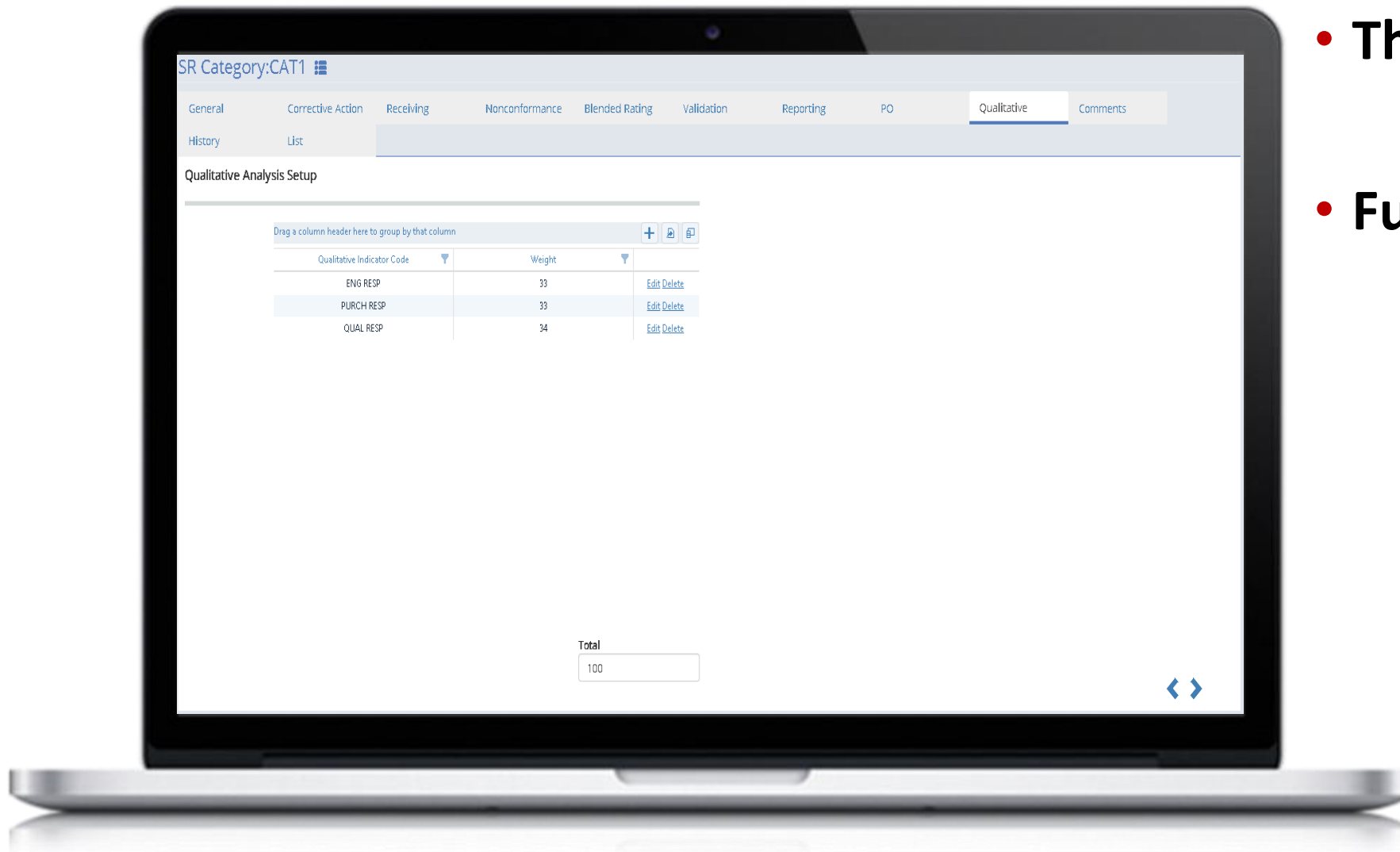
Qualitative Indicators

- **Defined by you**
- **Examples:**
  - **Engineering Responsiveness**
  - **RFQ Responsiveness**

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Qualitative Analysis

- **Manual process**

- **Objective evidence?**

- **Suggestion**
  - **Utilize AM with a type linked to each of your Qualitative Indicators**
  - **Leverage the score as your input here.**
  - **Maybe average several?**

Blended Ratings

- Delivery Blending

- Quality Blending

- Overall Blending

Genealogy/Configuration Management

▶ Enforcement of Requirements
(Serial Number, Lot Code, UID, etc.)

▶ Ensure All Issues are Resolved Before Product Release
- All inspections completed
- All Nonconformances resolved
- All deviations approved

▶ Ability to Rapidly Identify Suspect Material for Recalls

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Audit Management

► Enables electronic supplier self audits and surveys

► Displays audit list and results for supplier audits completed internally and by the supplier

► Only audits pertinent to the specific supplier are displayed

Manage Your Supply Chain

An effective QMS will allow you to map your supply chain by giving you the ability to indicate primary and sub-tier supplier relations.

This provides the ability to build a standardized approach to managing supplier information.

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Easily Identify and Categorize Suppliers
Authorized Distributor
Franchised Distributor
Independent Distributor
Open Market
OCM/OEM

Effective Supply Chain Quality

► Manage the <u>Entire</u> Supply Chain
- Delivery
- Price
- Quality

► All Levels
- Tier 1 Suppliers
  - Suppliers to Tier 1 "N" Tier
- Tier 2 Suppliers
  - Supplier to Tier 1
  - Suppliers to Tier 2 "N" Tier
- Tier 3 Suppliers
  - Suppliers to Tier 2
  - Suppliers to Tier 3 "N" Tier
- And next level and beyond….

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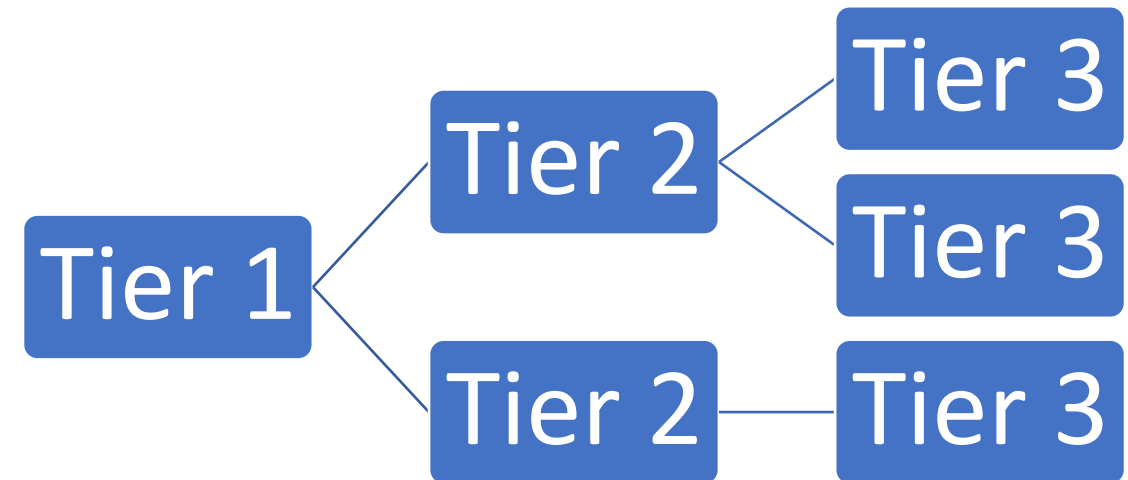
Supplier Approvals & Certifications

▶ Supplier and N-Tier Capabilities

- Approval Management
  - Supplier, Part, Commodity, Process Capability
  - Special Processes
- Supplier Approval and Certification Supported by Audit Results
- Supplier and Part Level Certification
- Comprehensive ASL Approved Supplier List with Host Integration
- Certified Parts management including automation
- Inspection Planning

ERP Integration:
- Supplier Approval Status
- Part Certifications
- ASL Part Status
- Process Capabilities

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Benefits for Supplier

Interact/collaborate with supporting data and documentation

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Standardize Workflow

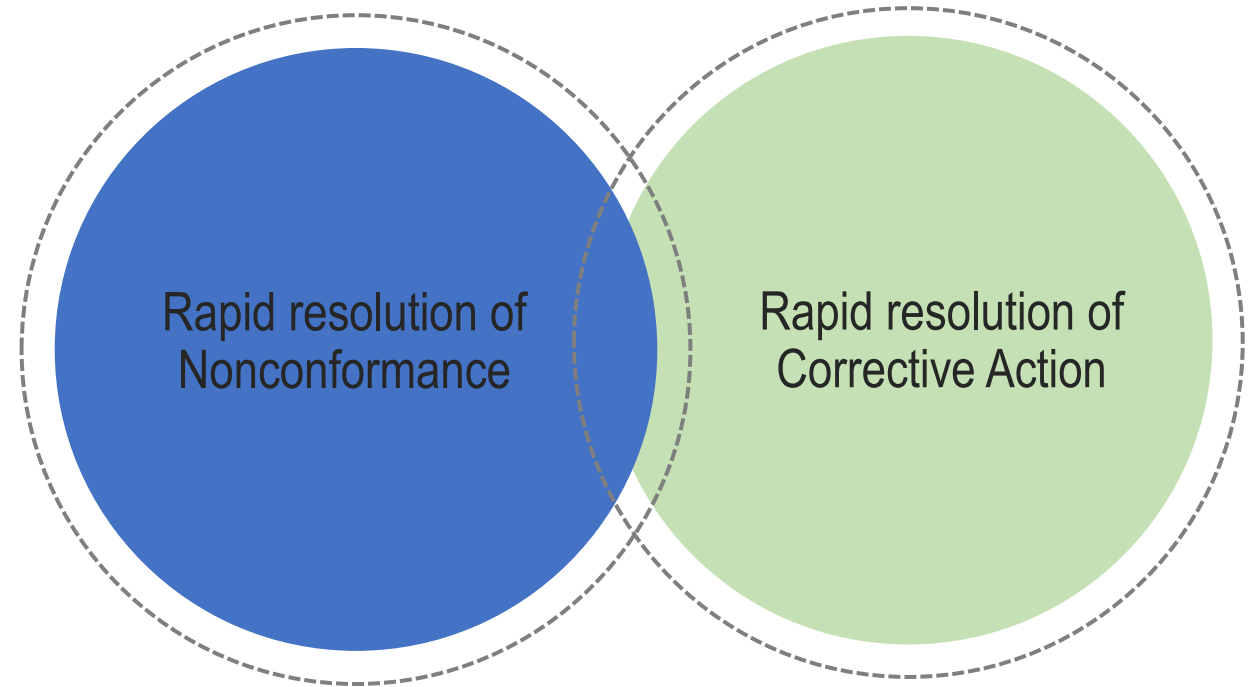▶ Statistical Process Control (SPC)
- Categorize issues using measurable codes
- Instantly react to variations
- Identify Trends

▶ Eliminate Paper-based records

▶ Reduce scrap and rework

Manage Tool Usage

▶ Alert users about tools due for calibration

▶ Track possession of tools

▶ Automate calibration recall

▶ Reproducibility analysis

▶ Complete audit trail

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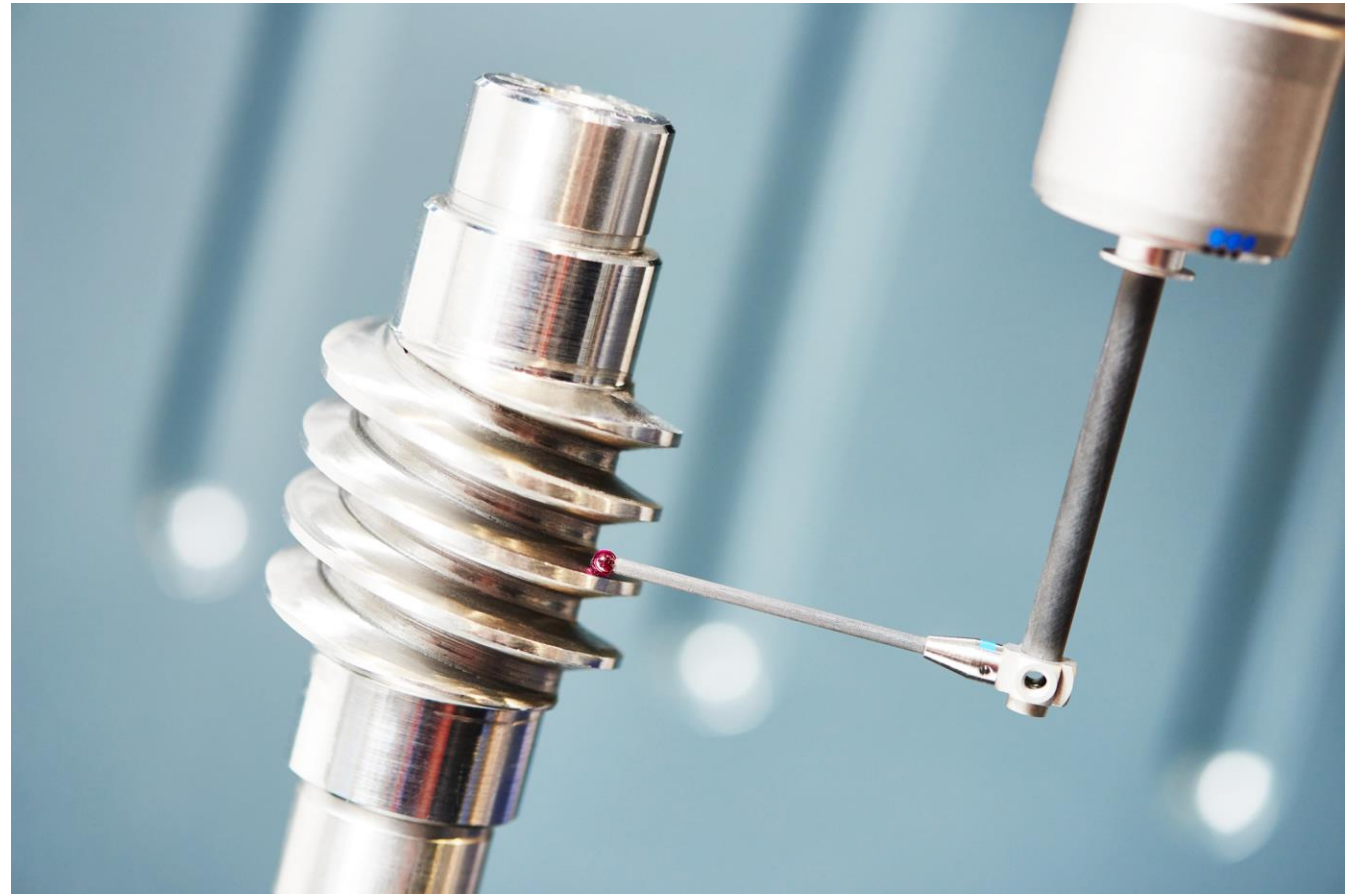
Achieve Real-time Collaboration Throughout the Supply Chain

Rapid resolution of Nonconformance

Rapid resolution of Corrective Action

Closed-loop CAPA process tracks issues from initiation through disposition and corrective action.

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Seamless ERP Integration

- Real-time access to quality and manufacturing data

- Supports real-time process control

- Provides the flexibility to respond quickly to changes in inventory levels, production status, and regulatory updates

- Reduces the complexity of multi-site infrastructure

- Actionable data and enhanced operational visibility allows better decisions across the enterprise

Thank You!

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