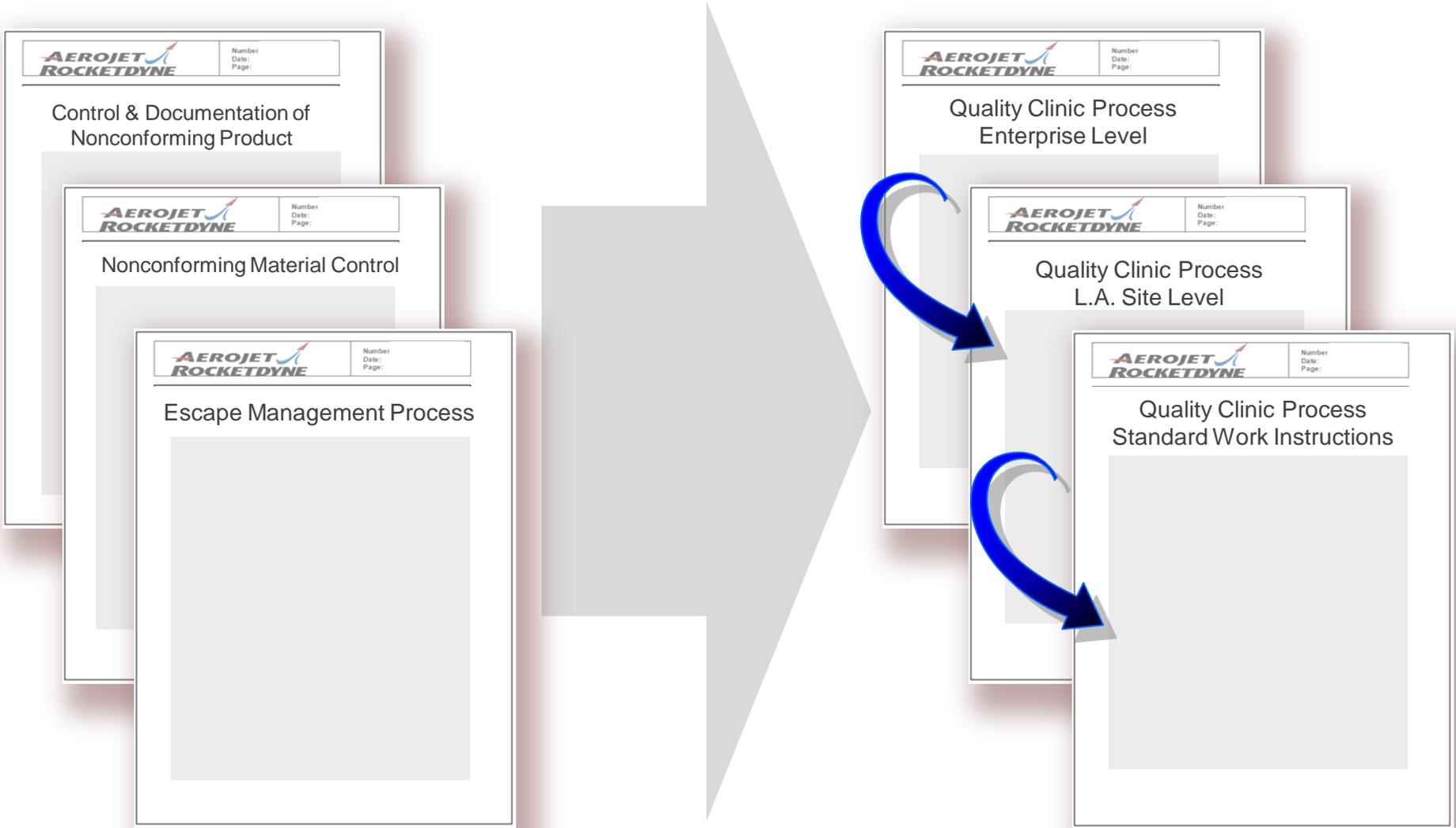# Quality Clinic Process Overview
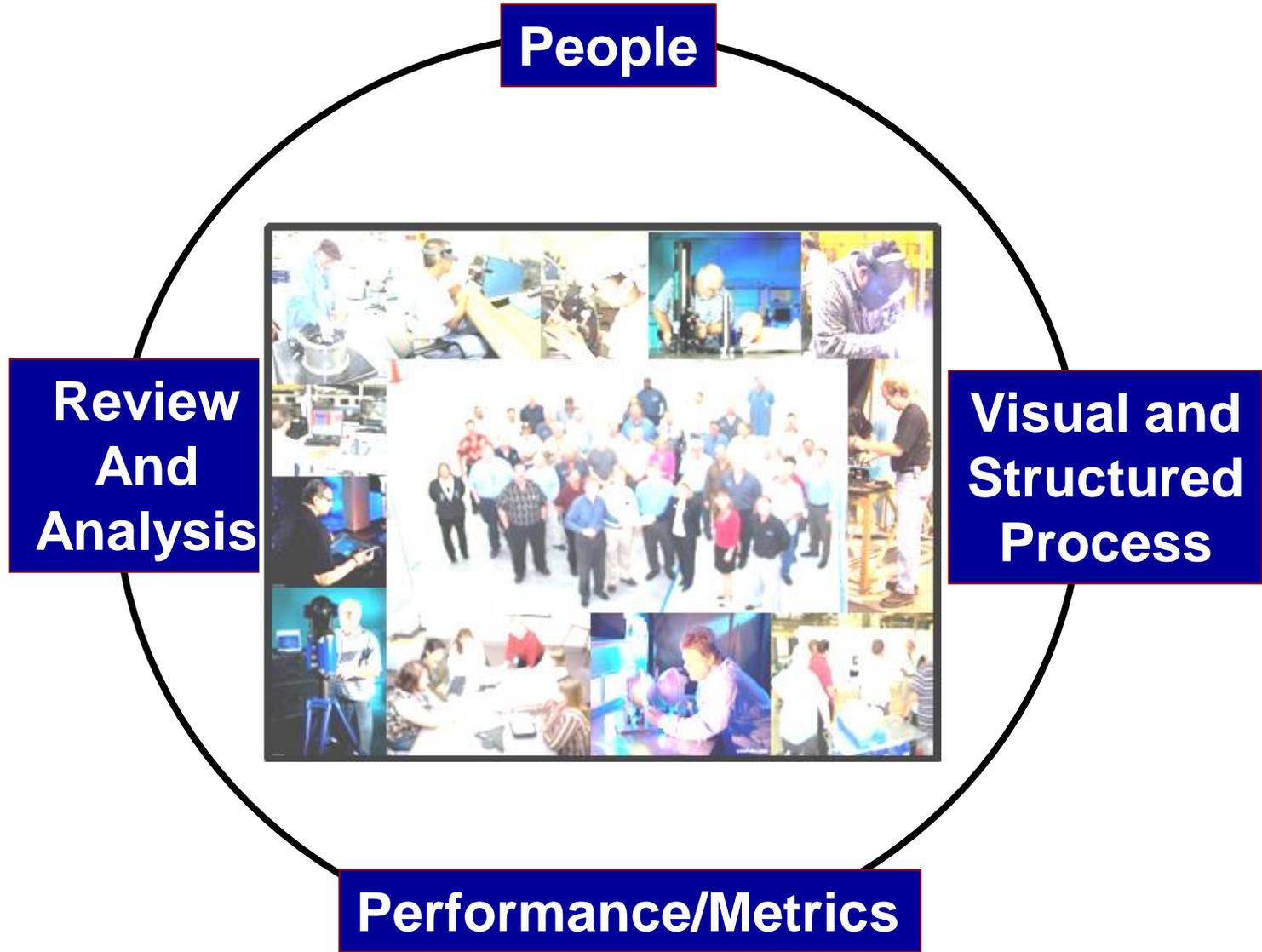# L.A. Site

What is a Quality Clinic?

- **The Quality Clinic is a place that encourages open communications around quality issues (triage)**

- **Quality Clinics analyze product and process nonconformances, determine root causes, and ensures changes to standard work, processes and/or designs**

- **Staffed by associates who have an in-depth knowledge of the products produced by the Clinic business unit, the measurement instruments contained within the Clinic, and problem solving skills**

- **Real-time triage investigations performed**
  - Alert notification system designed to provide immediate notice of nonconformance in manufacturing areas

Document Structure

Control & Documentation of Nonconforming Product

Nonconforming Material Control

Escape Management Process

Quality Clinic Process Enterprise Level

Quality Clinic Process L.A. Site Level

Quality Clinic Process Standard Work Instructions

Key Elements

People

Review And Analysis

Visual and Structured Process

Performance/Metrics

People

- **Focal point leadership established**
  - Standard work developed
  - Interface networking driven by Ops/Quality Tier II Correction Action Board (CAB)

- **Clear Instructions to Manufacturing Engineer, Process Engineer, and Quality Engineer**
  - Drive the process forward – Daily routine

- **Enterprise "Continuous Improvement" philosophy drives employee engagement at all levels**

Core Quality Clinic

Receiving Satellite Quality Clinic

Assembly Satellite Quality Clinic

Nonconforming Material Flow

Event

Nonconformance Happens → **Nonconformance Generated In System** → **Inspection Notifies Manager and Clinic** (Help) → **Material Review Engineer Completes Pre-Disposition** → **Manger/Clinic Contact Natural Work Team (NWT)** (Help)

NWT Completes Investigation → **NWT Completes Corrective Action Determination and Tier I Action** (If Appropriate) → **Part Moved To Appropriate Area Until Disposition Is Complete**

Hardware Tracked

Aging Monitored in Quality Clinic

Pre-disposition through Corrective Action Determination Flow

Quality Clinic Process
Physical Visual Management



**Quality Clinic Status Board
and Product Lanes**

Cones, Lanes and Check Out Cards Color-Coded To Product

Process

Andon **is derived from a Japanese term for a type of paper lantern "warning"**

- **Andon system provides a visual feedback to the manufacturing floor and support teams**

  - Indicates assistance is needed

  - Empowers "stop the production" for quality issues

  - Brings immediate attention to problems as they occur in the manufacturing process

  - Provides consistent communication to the shop floor

  - Improves accountability of operators by increasing their responsibility for "good" production and taking action when problems occur

  - Improves the ability of supervisors to quickly identify and resolve manufacturing issues
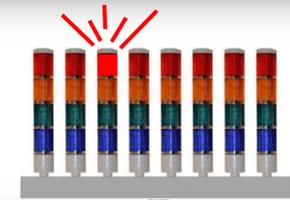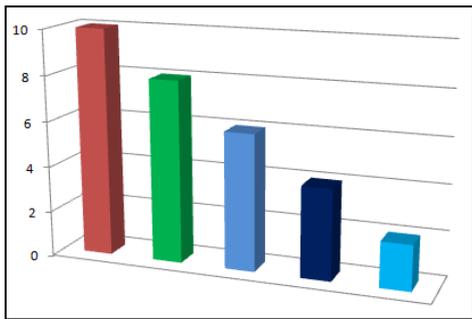

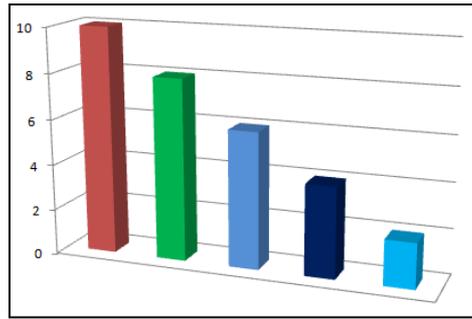**Zone/machine where nonconformance occurred indicated on TV monitor map**

Performance and Metrics

Managing Hardware Velocity - Quality Clinic Health

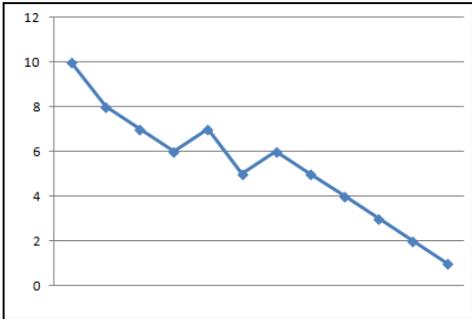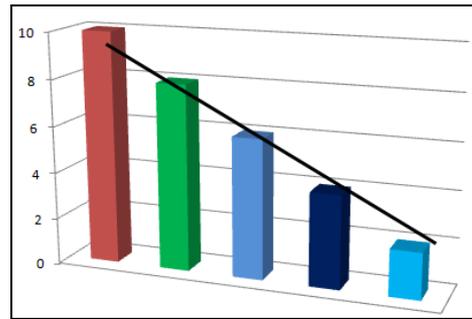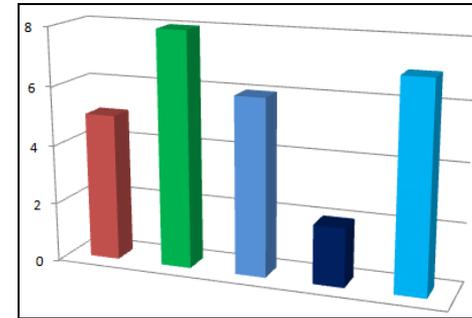

Types of nonconformances sent to Clinic

Types of nonconformances sent to Clinic by Program
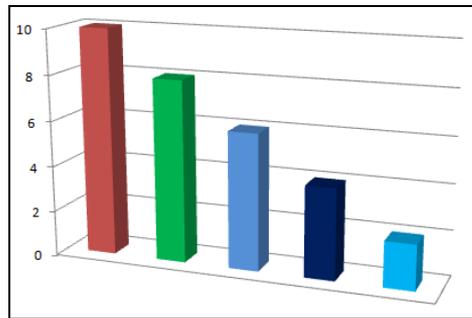

Quality Clinic Processing Backlog

Hardware Processed Cycle Time

Corrective Action Determination Closure Age
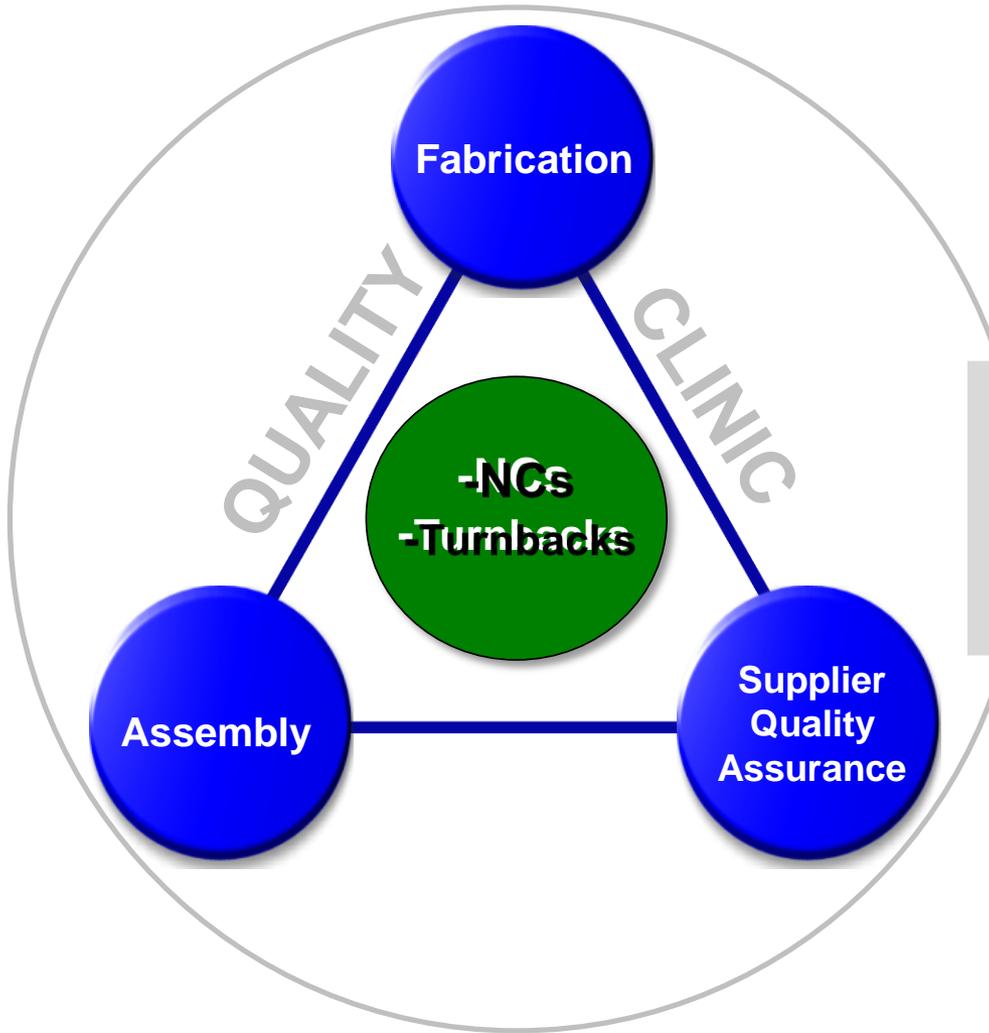

Current Clinic Hardware Aging

Managing Performance: Product and Process

| Internal Escapes | Nonconformance Rate | Corrective Action Implementation Cycle |
| Cost of Poor Quality In-House | Corrective Action Plan Approval | |
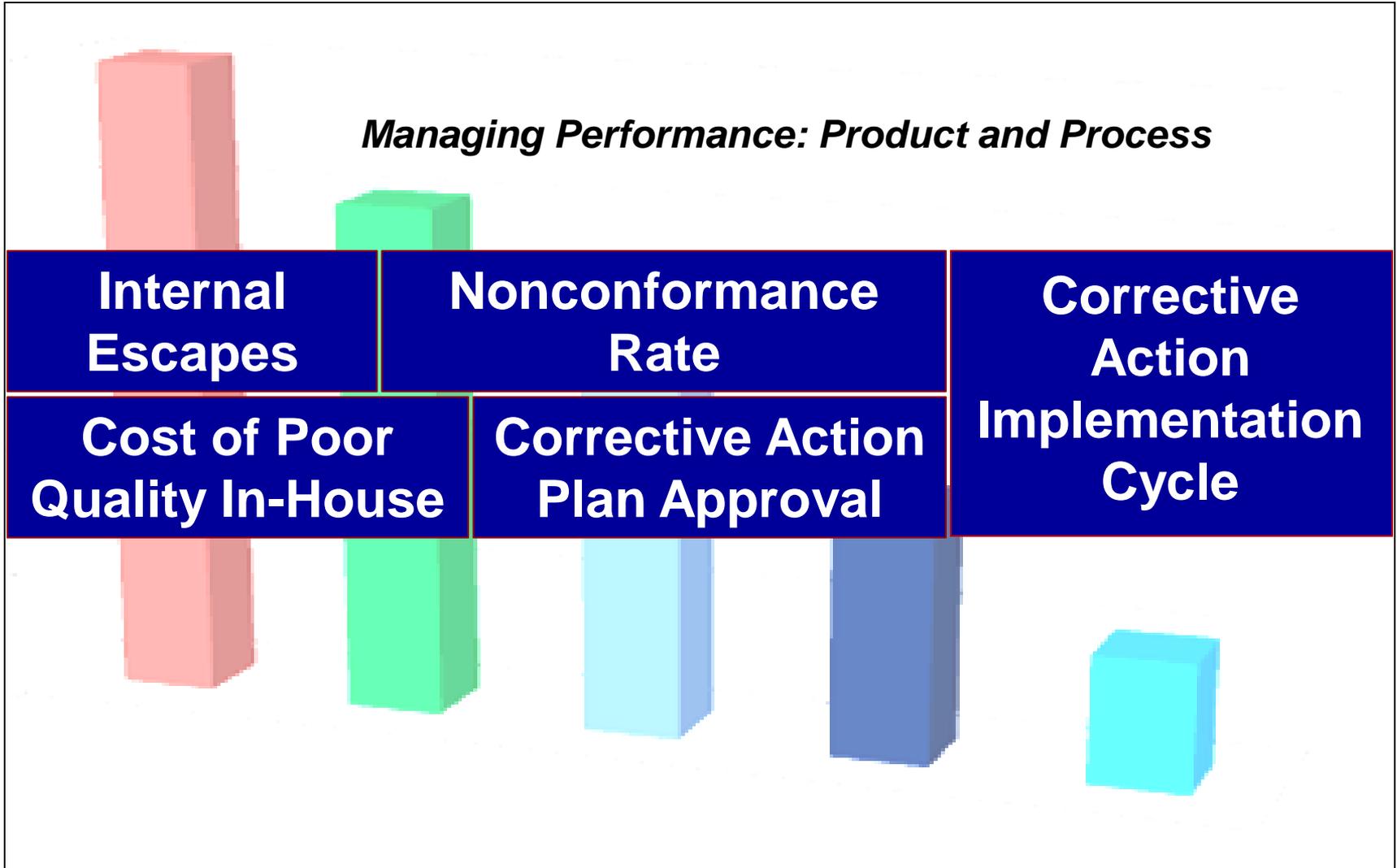
Performance and Metrics

Analysis

Quality Clinic diagram:
- Fabrication
- Assembly
- Supplier Quality Assurance
- Center: -NCs -Turnbacks

Pie chart:
- Internal NCs
- Supply NCs

Function Type Issue | P line Cause Responsible Department

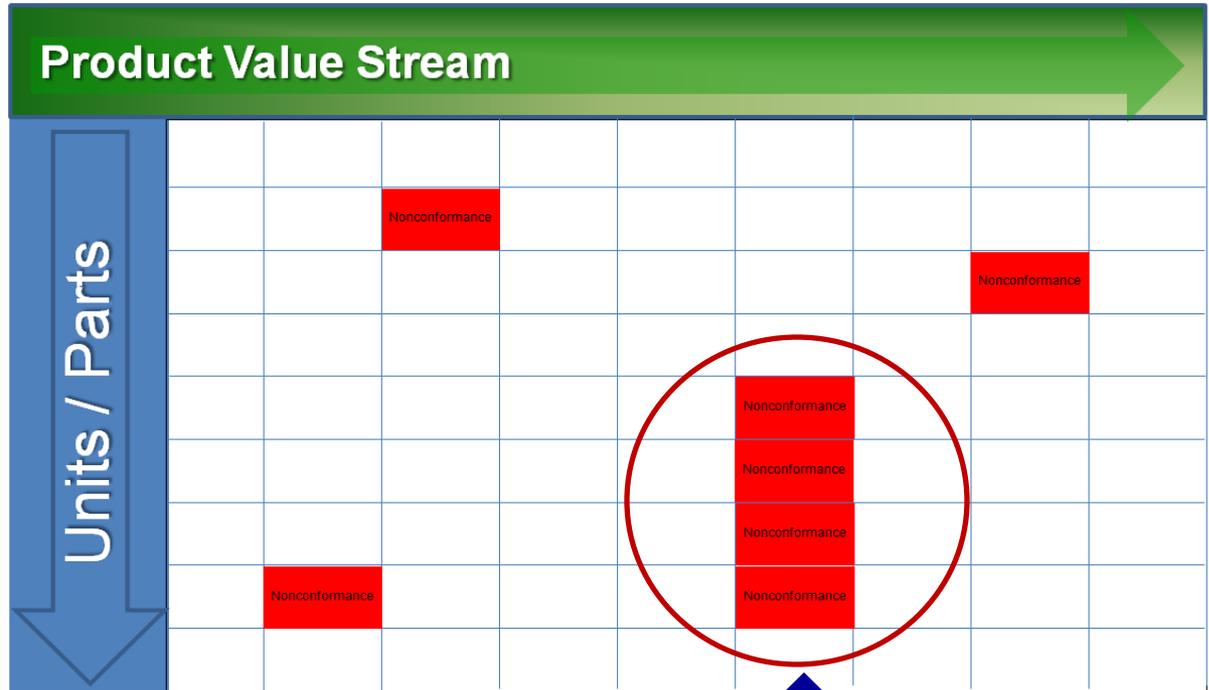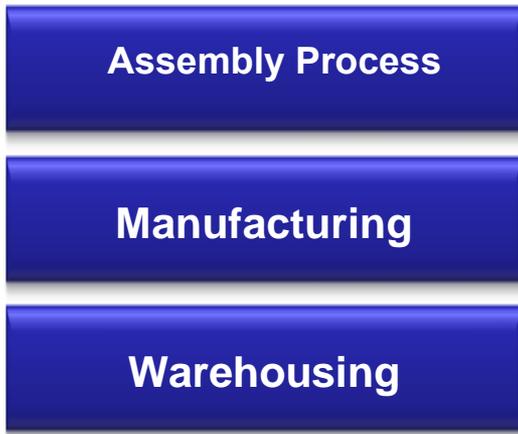Nonconformance Material Review

Rework Repair Scrap
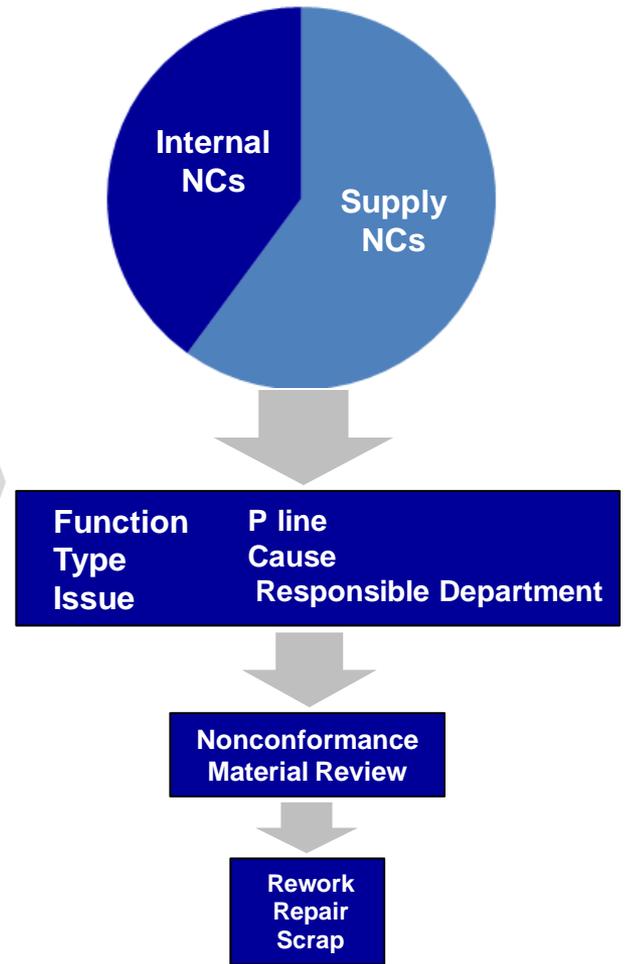
Analysis

- **Quality Clinics leverage off a strong Root Cause Analysis (RCA) and tiered corrective action board (CAB) structure**

- **Quality Clinic leadership are trained in incident investigation, RCA, mistake proofing and have expertise in the facilitation of problem resolution activity**

- **In addition, as part of the process structure, systemic identification, NC trending and value stream interruption analysis is supported with the utilization of:**

    - **Concentration diagrams**
    - **Concentration mapping**

Concentration Diagram

- **Designed to provide a visual of process areas that hinder product and quality**

- **Repetitive nonconformances evident in the value stream**

- **Seen over time or from unit to unit**

Assembly Process

Manufacturing

Warehousing

Product Value Stream

Units / Parts

Nonconformance

Nonconformance

Nonconformance

Nonconformance

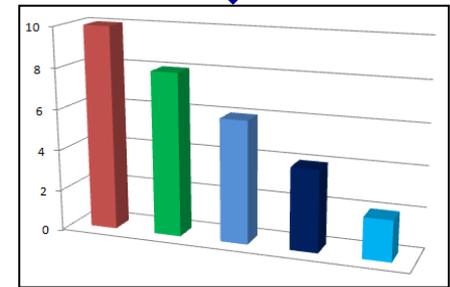Nonconformance
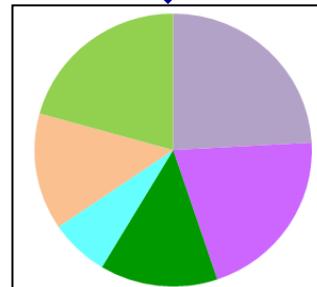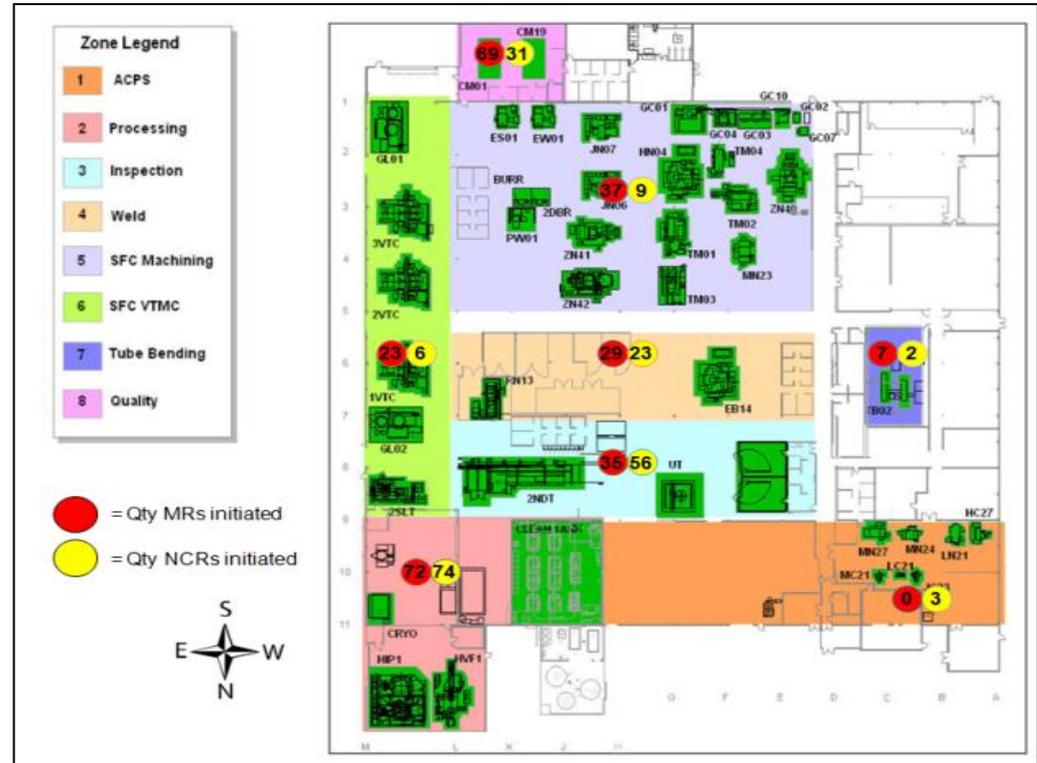
Nonconformance

Nonconformance

Process in the product value stream that requires attention

Concentration Mapping

- **Designed to provide a visual of processes that hinder product quality**

- **Factory map showing the different processes**

- **High quantity of nonconformances in an individual process**

Process Areas

Nonconformance Types

Summary

- **Quality Clinic comprised of four elements**
  - People / Process / Performance-Metrics / Analysis

- **Quality Clinic encourages open communications, analyzes product and process nonconformances and facilitates the investigative process**
  - Staffed by experienced individuals with in-depth knowledge of product/ processes

- **Typical focus areas: Core Manufacturing, Assembly and Supply Chain**

- **Designed as a Visual Management Tool**
  - Concentration diagrams and mapping
  - Posted health and performances metrics
  - Embedded in close proximity to operational activity

- **Focused on real-time triage, containment and action response**