JTEG Panel
Technologies to Train the Workforce

Pendaran, Inc.

FRC East

“Three trainings stand out in my 30+ years with the Navy: live fire exercises, gas chamber training and Pendaran training”

Navy Captain

“You can see the research behind this. It is wire tight. Besides flight school and maybe survival training, I’ve never internalized training so completely. The production is flawless.”

Marine Major, Test Pilot

Operate Your Depot Better

- A depot has to work as a system to produce results
- All parts of the system have to operate effectively to produce results
- Depots must improve continuously

Challenges Facing All Depots

- Continuing tight fiscal constraints
- Increasing extension of platform lifecycles
- Turnover due to aging workforce

People are the Key Asset

Upgrade Your Greatest Asset

“In theory, there is no difference between theory and practice; in practice there is”

Yogi Berra

Historical Shortcomings of Training

Historical Shortcomings of Training, 2

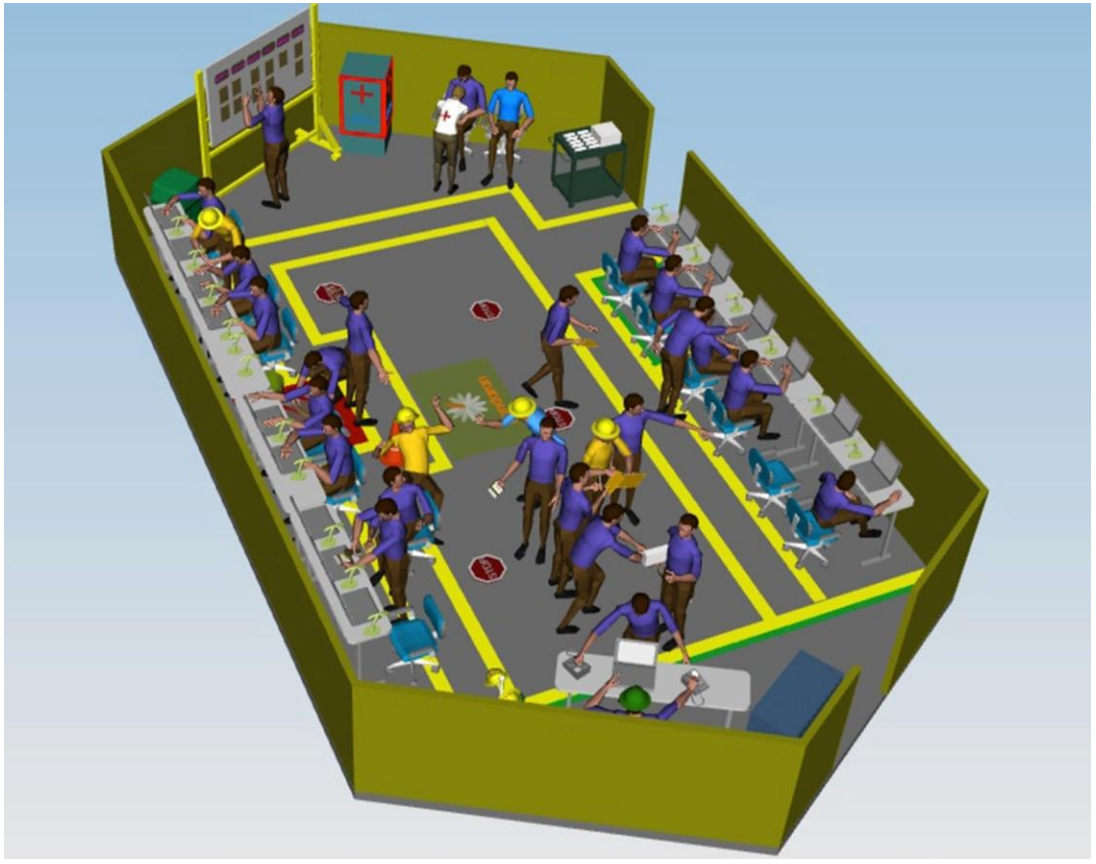
- Training is context free and general
- Humans learn by discovery, feedback, trial and error, tinkering, making mistakes
- Training is generally a bunch of weakly connected modules

New Technology for Acquiring Experience

- Learning in the Context of Work
- Learning with the Brain in Mind
- Learning Designed as a System

New Technology for Acquiring Experience

- Solve problems of ‘survival’ in an unpredictable environment while physically moving
- Immediate feedback
- Learn from mistakes
- Learn in context
- Work as a team
- Work as a system



Three Key Questions

1. What are the results and how long does it take to get them?

2. Are the results sustainable?

3. What is the impact on individuals' attitudes and skills, and overall organizational culture?

FRC East Cherry Point

Support to the Warfighter

Products

- Airframes: AV-8B, V-22, H-1, H-46, H-53, EA6-B, H-2, H-3, H-60, C130
- Engines: F402, T400, T58, T64
- Components: DRP for 18,636 items; supporting over 193 Type/Model/Series
- Engineering/Logistics for all Naval Rotary Wing, V/STOL, C-130 and other systems

Customers

US Navy, US Marine Corps, US Army, US Air Force, US Coast Guard and 24 Foreign Nations

Workforce Profile

- 3,200 Civilian/Contractor/Military Employees
- Average Age of Workforce: 46
- 5 Labor Unions

International Association of Machinists and Aerospace Workers
- LL 2297
- LL1859

American Federation of Government Employees
- LL 451
- LL2065

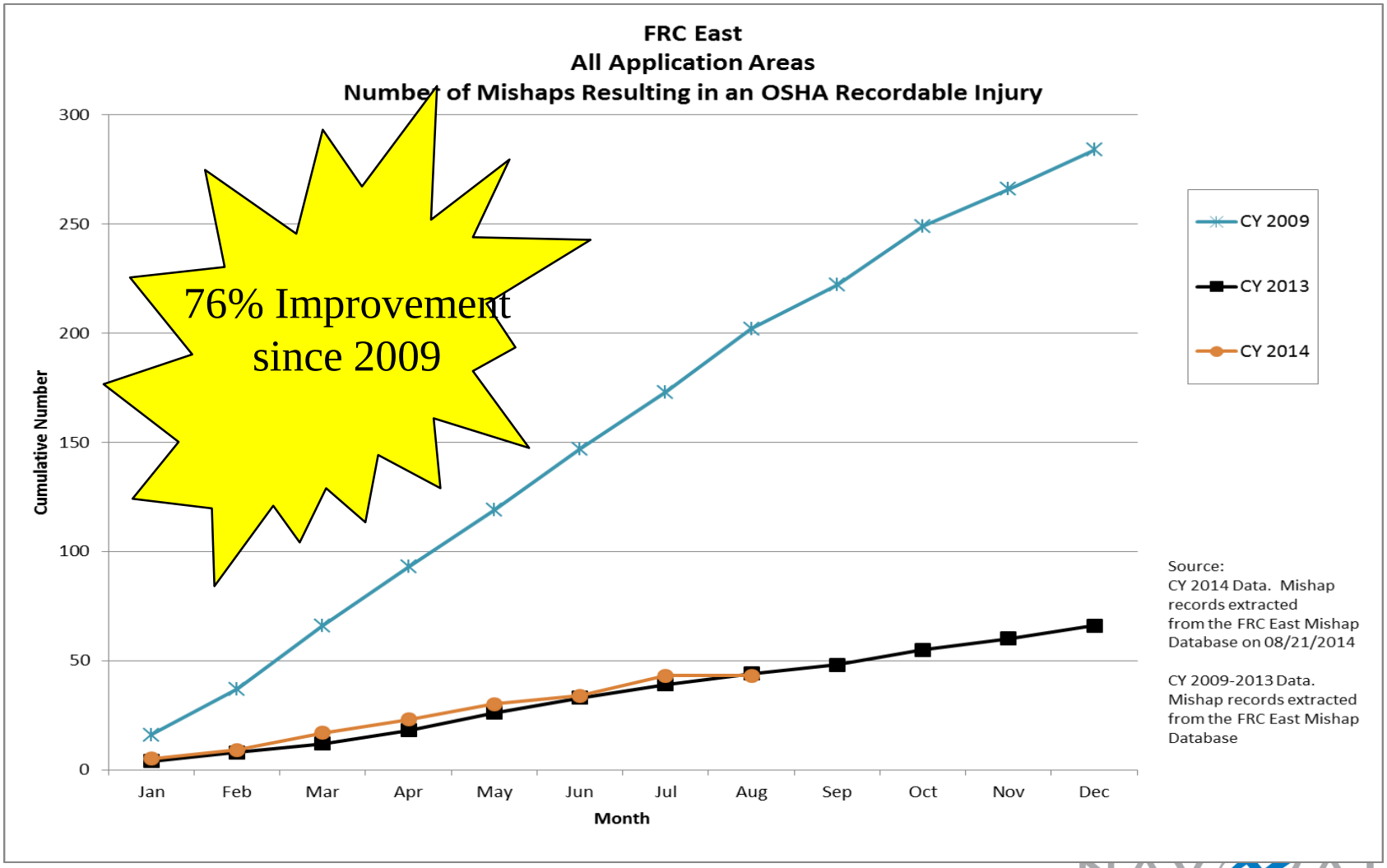
National Association of Aeronautical Examiners
- Local 2

Economic Impact

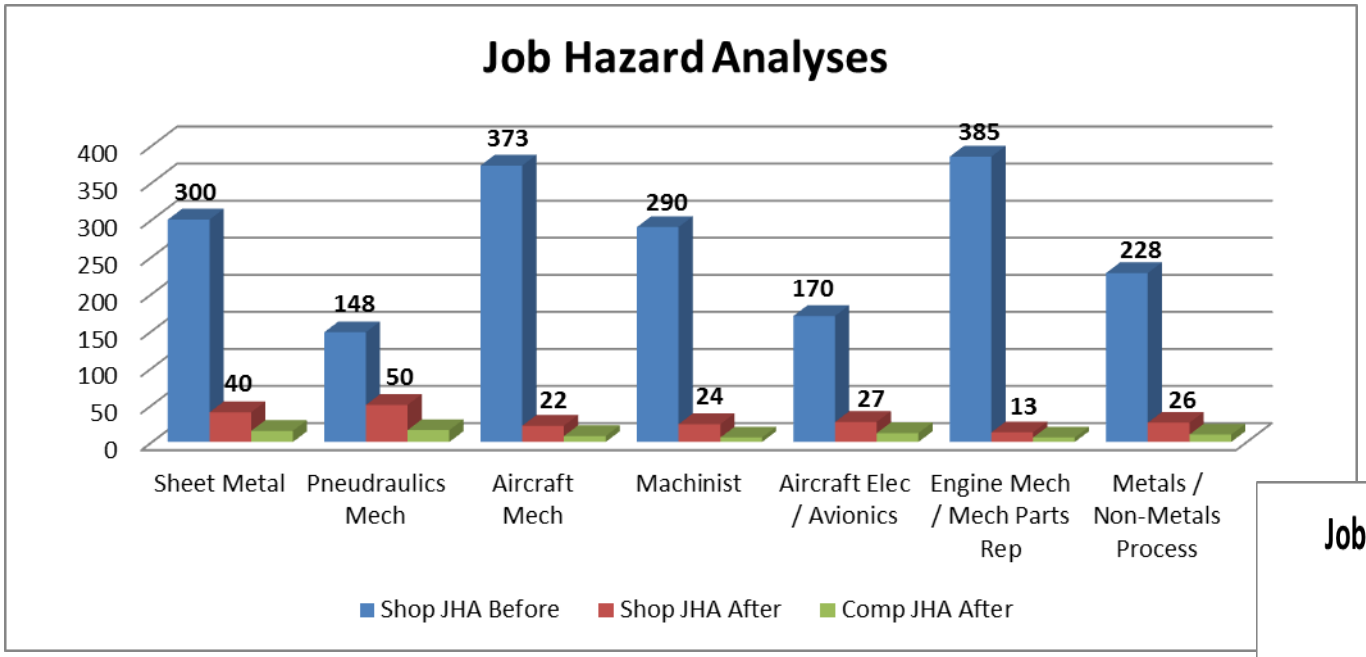
- North Carolina's largest Industrial Employer East of I-95
- Budgeted Payroll: $265.5M
- Avg Salary: $66K
- Budgeted FY14 Sales: $681.7M
- Budgeted FY14 Direct Labor Hours: 3.2M

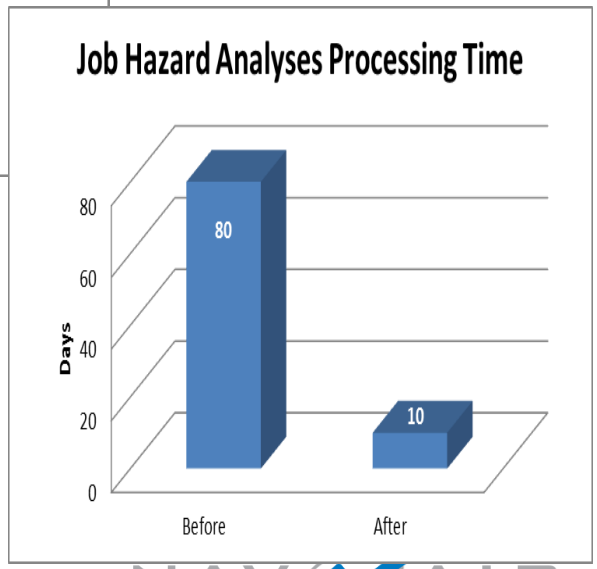
Safety Quality Throughput Cost

Pillar 1: SAFETY



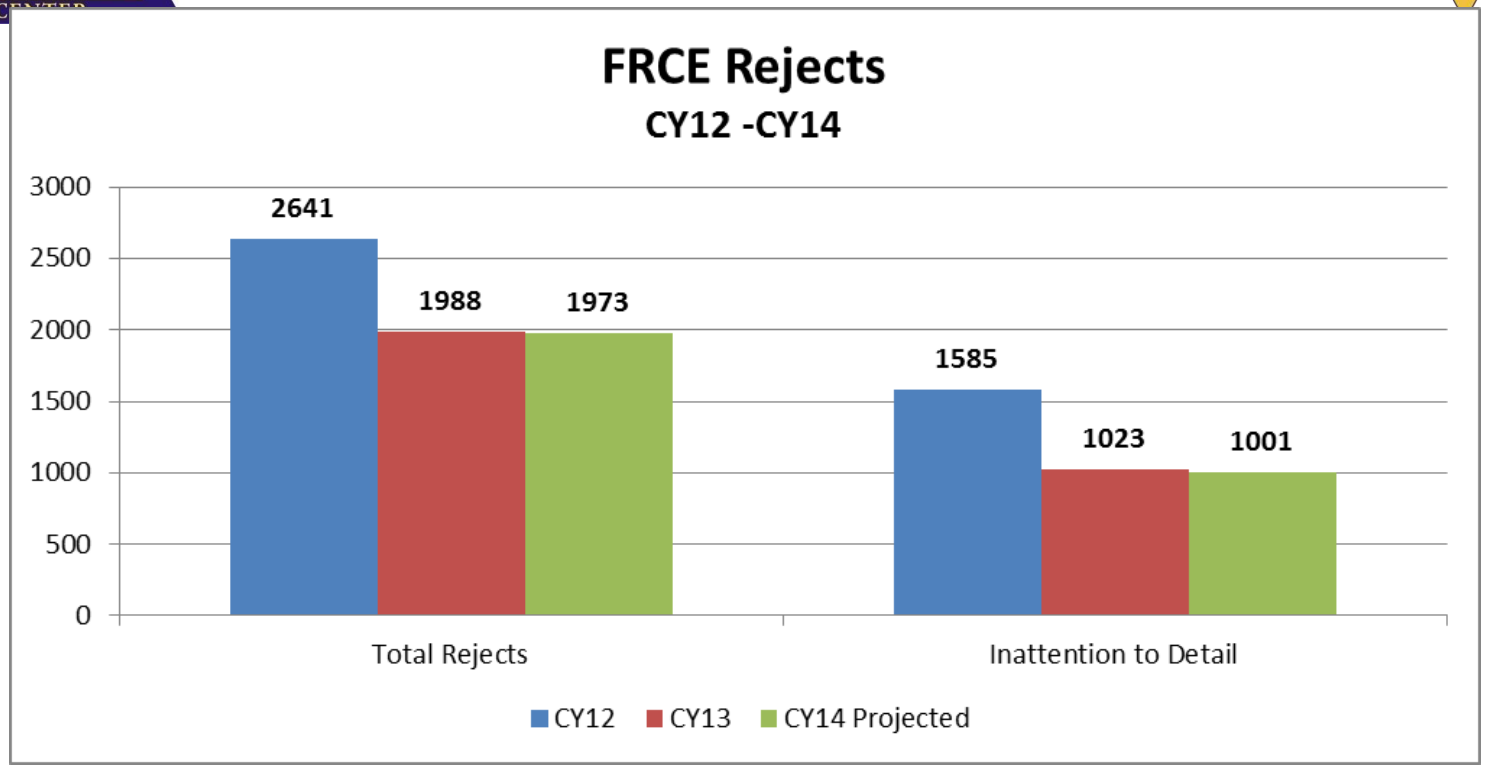
Sheet Metal Job Hazard Analyses





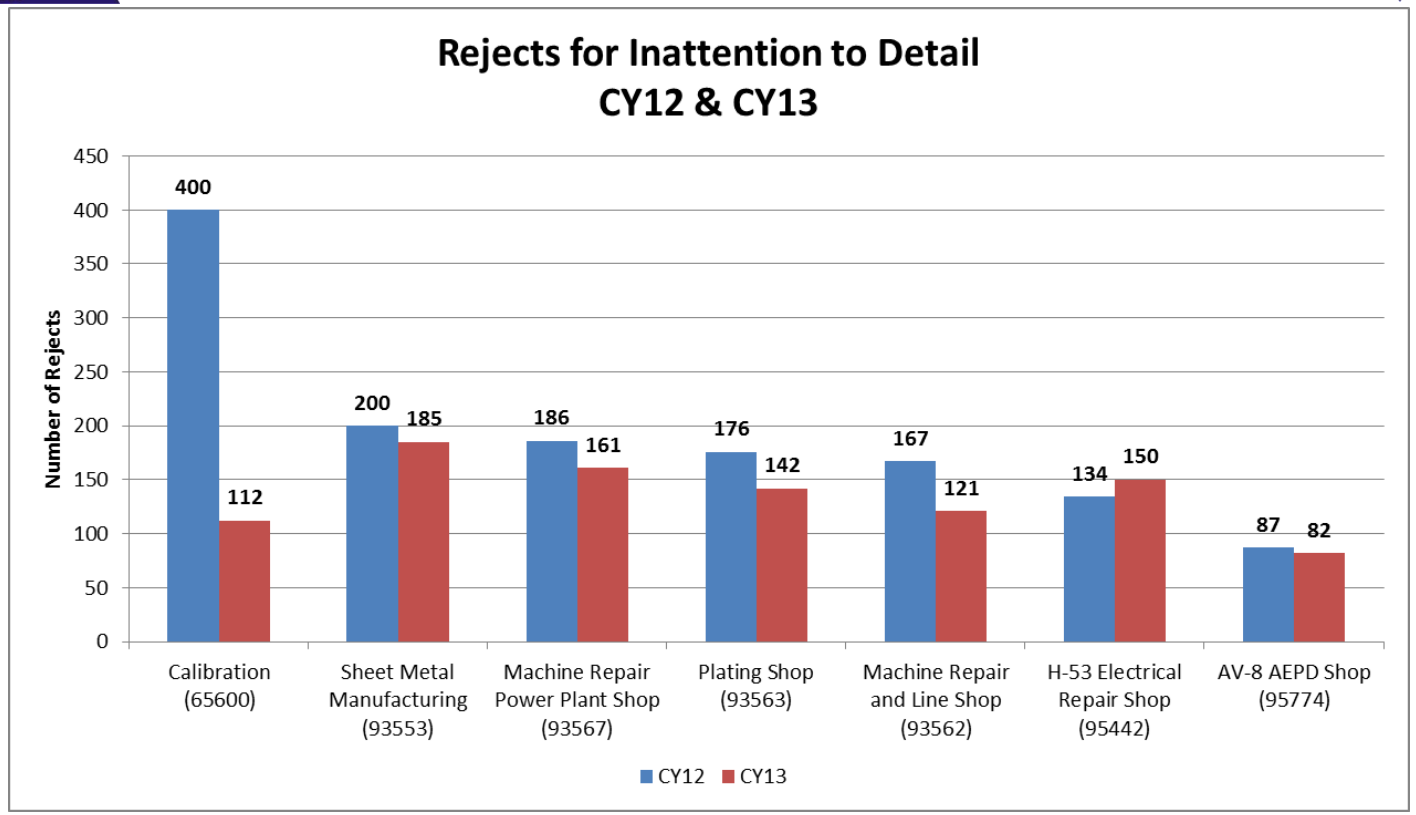
Prior to this project, each JHA took approximately 80 work days to be approved

Pillar 2: QUALITY



Pendaran focus area – Reduce rejects due to inattention to detail

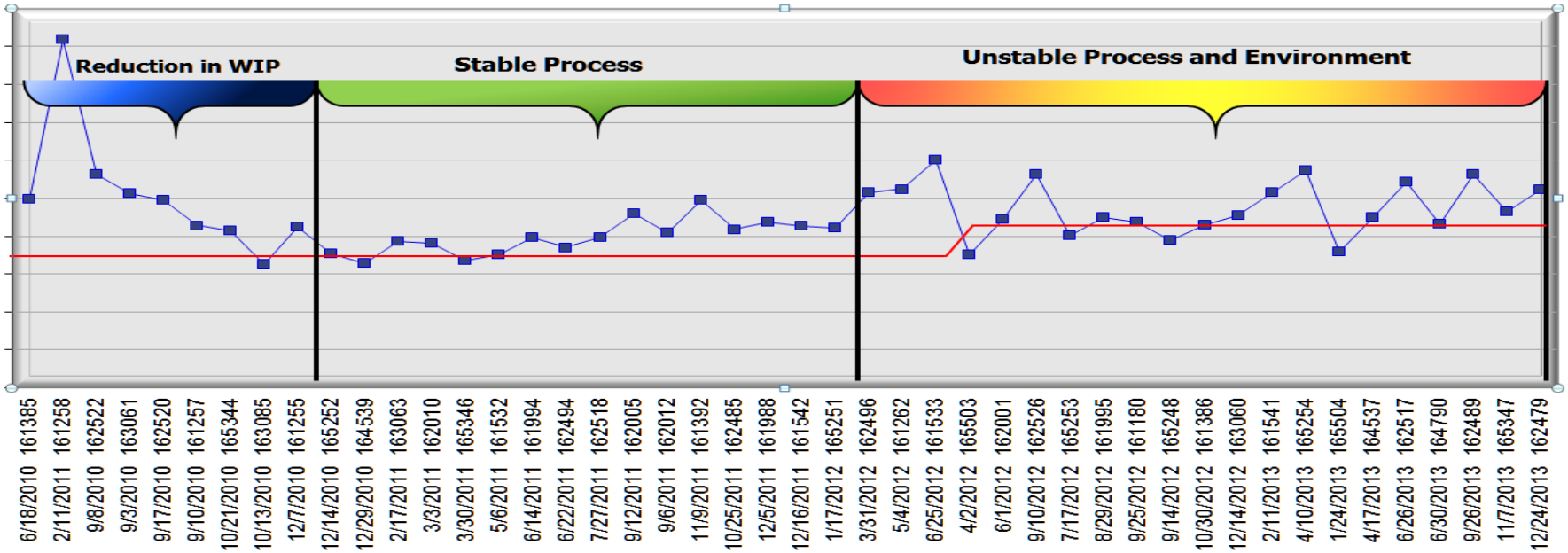
Achievement – 25% reduction in total rejects / 37% reduction in Inattention to Detail rejects



Seven shops targeted for Mistake Proofing training and small, focused projects to reduce defects.

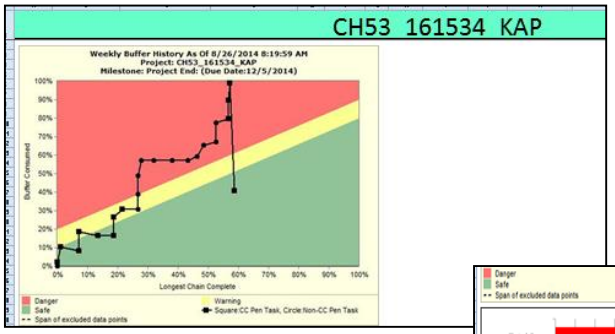
Pillar 3: THROUGHPUT

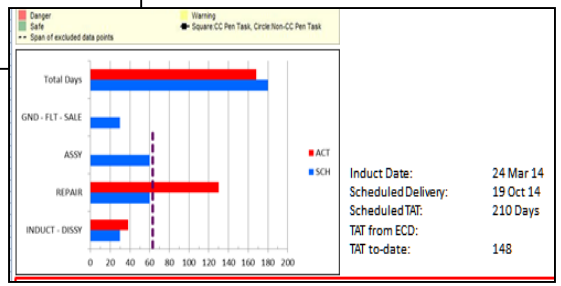
- **H53 IMC Problem Statement**
  - **Unstable Upfront Conditions (Induction & Disassembly)**
  - **12% of Routed Parts have Unachievable Lead Time**
  - **Unstable Core Team on H-53 Line (High Turn-Over)**



H53 IMC Improvement

Results To Date

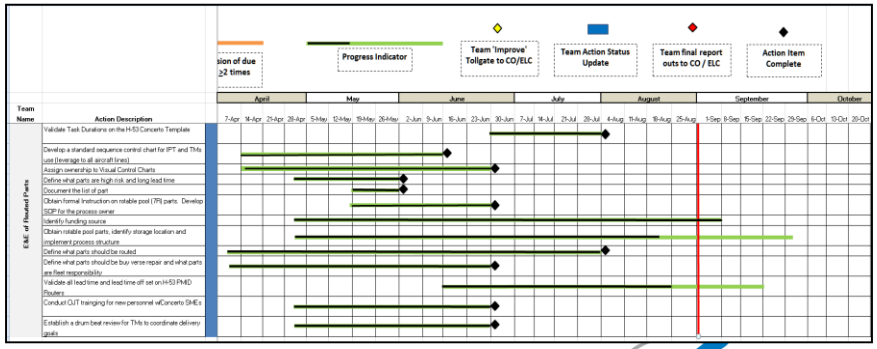




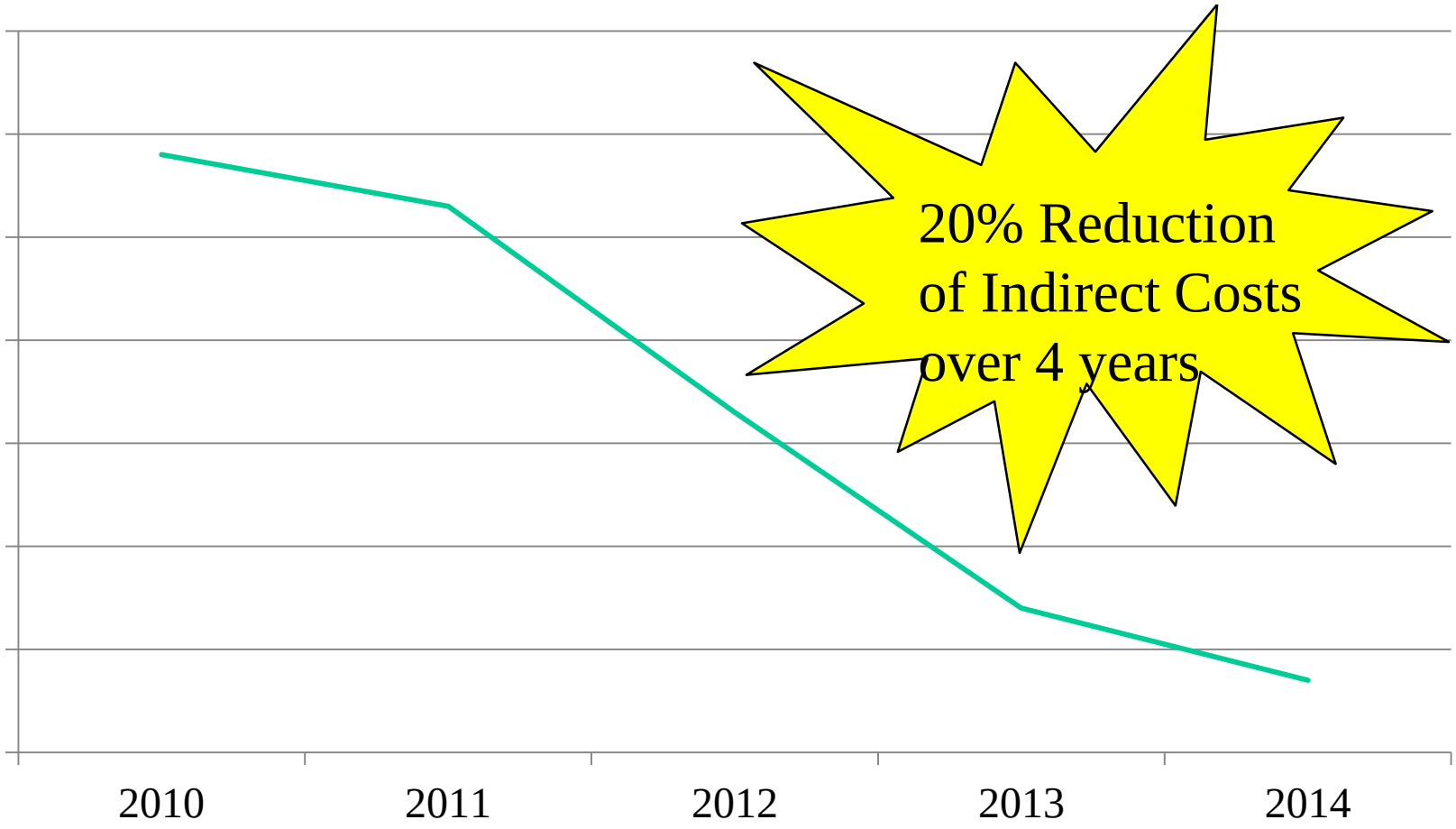
Improvements Realized to date

- **Reduced Actual Disassembly by 4 days**
- **Visual Media Improves Floor Awareness**
- **Concerto Management Driving Priorities**

Project Action Items - 4 remaining



Pillar 4: COST



Our Customer