



# Melbourne Operations Lean Transformation Plan

Presentation for **SEA**

**Supplier Excellence Alliance**

June 17, 2008

***Rockwell  
Collins***

## Rockwell Collins Melbourne Operations...

Designs, Develops , Manufactures and Delivers Aviation Electronics and Airborne/Mobile Communications Systems for Commercial and Military Applications Worldwide ...



# Business and Regional Systems & Air Transport Systems



## Key Markets

- Regional airlines and OEM
- Business aviation and OEM
- Air Transport OEM

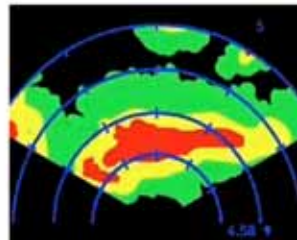
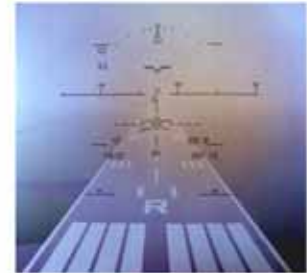
## Core Product Capabilities

- Situational awareness systems
- Integrated avionics systems
- Flight management systems
- Flight display systems
- Flight control systems
- Communication systems
- Navigation systems



## Melbourne Capabilities

- Engineering Design and Development
- Regional Human Resources and Security
- Service Parts (Rockwell Collins Services)
- Metrology
- Procurement
- Finance
- Business & Regional Systems Customer Support
- Quality
- Operations
  - Assembly
  - Environmental Stress Screening
  - Testing



## Melbourne Ops Lean Transformation Plan

### **What it takes to WIN – Customer Focus**



Ongoing Supply Chain focus among OEM Customers – have evolved aircraft production to single-piece flow

## Melbourne Ops Lean Transformation Plan

### **Customer Expectations Evolving**

- Customers not wanting to manage to “dates”. Rather, desire Rockwell Collins to monitor the production and ship only what is needed, at the right time, quantity, quality, and in a single aircraft “ship set”.
- Quality and delivery objectives continuously increasing
- Customer expecting Rockwell Collins to manage the on-site container pipeline.

Just-in-time container delivery – 1 for 1 replenishment at customer site



## Lean Transformation – Melbourne Operations

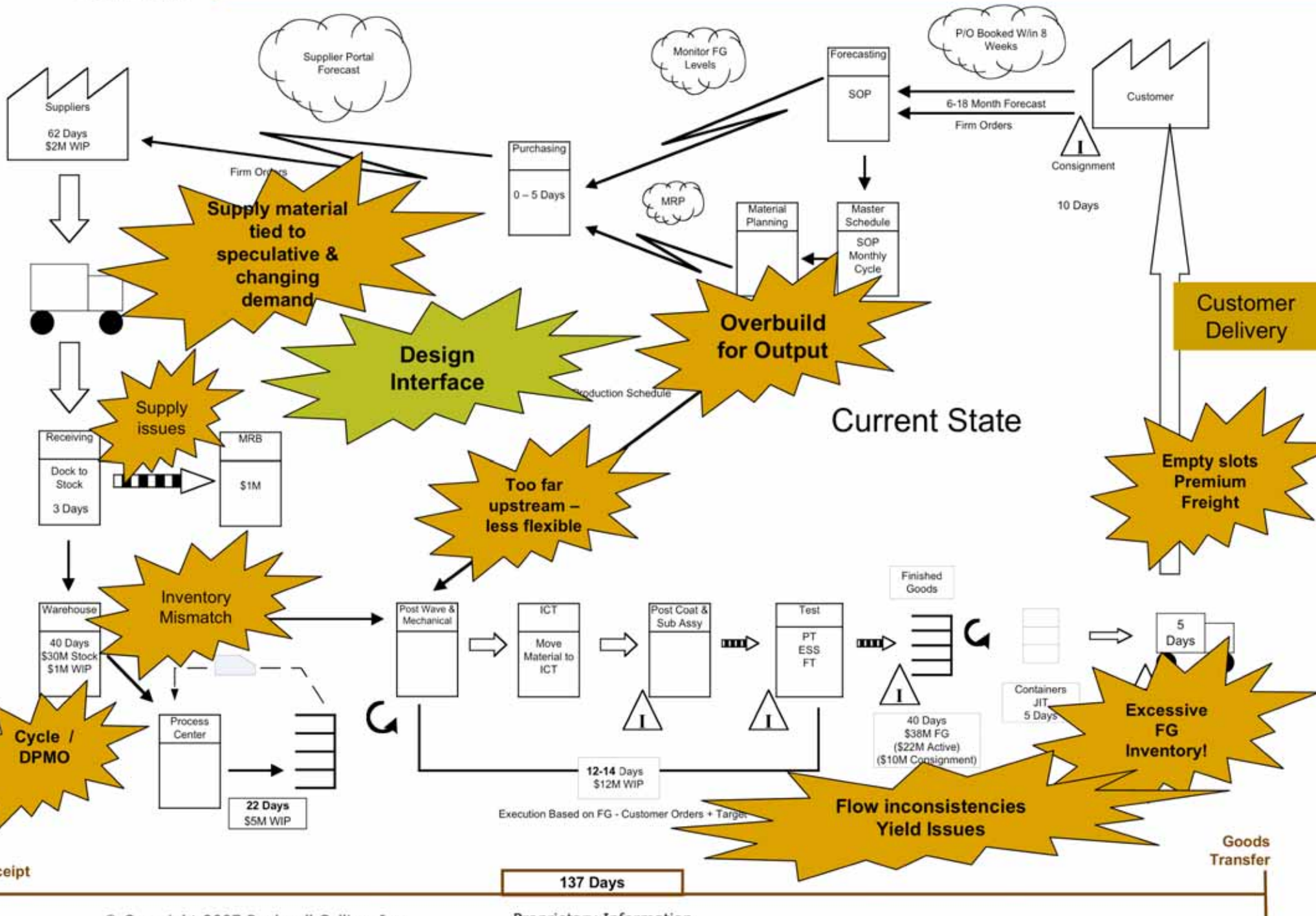
### **Current State: Lean environment**

- Single-piece flow production
- Progressing to "pull" production
  - Build to order, OR
  - Finished goods Kanban replenishment

### **Production Risk Sources**

- Demand Change / Rescheduling
- Shortages
- Excess Inventory
- Variation Management
- Test Yield / Cycle Time
- New Product Introduction
- Space Constraints

These risks threaten flow while creating unnecessary rescheduling, less-than-lead time emergencies, shortages, and excess inventory.





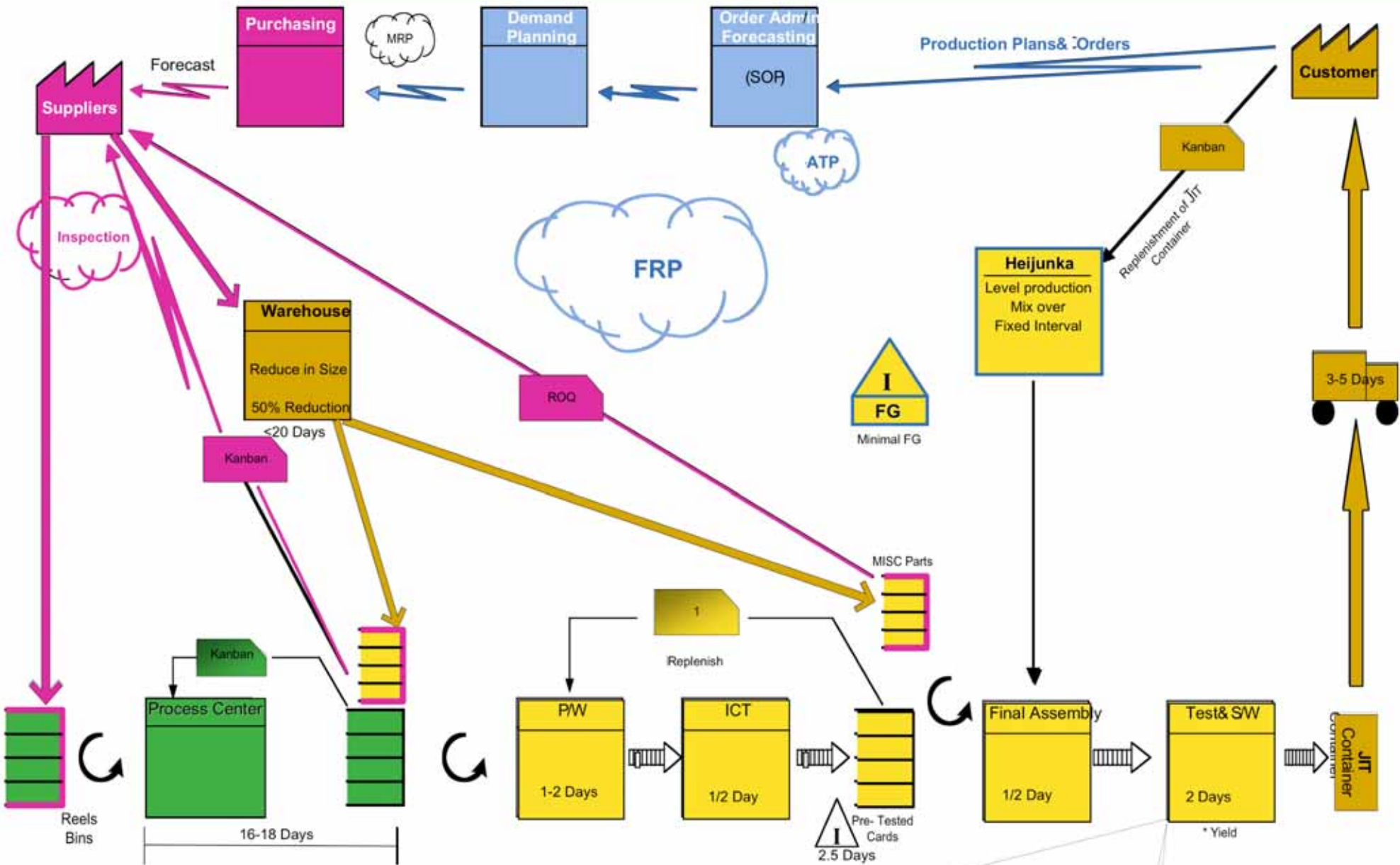
# Melbourne Ops Lean Transformation Plan

## **Transformational Objective**

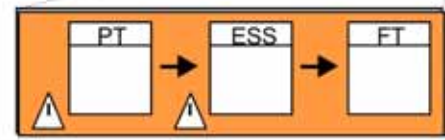
- Transform the Operations Value Stream of Customer Delivery through Supply Chain from a forecasted production schedule to a customer triggered demand pull system.

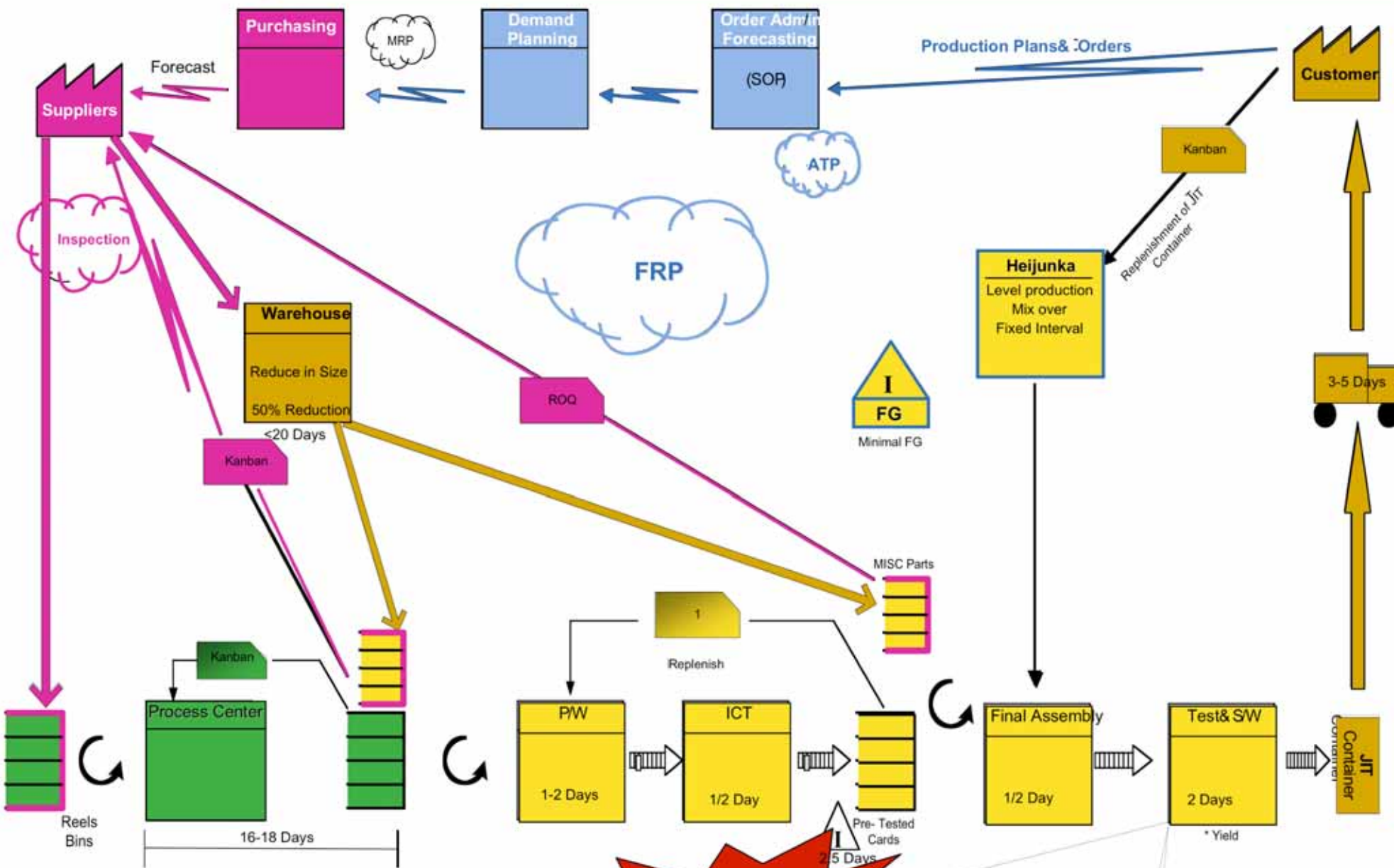
## **Future State Initiatives**

- Seamless customer interface – Just-in-time container delivery, hands free administration
- Pull production system – replenish materials as consumed at defined points throughout the value stream
- Integrated supply chain – Kanban replenishment
- Insulate against risk and minimize variation with respect to
  - Material supply
  - Manning
  - Equipment availability
  - Test Process

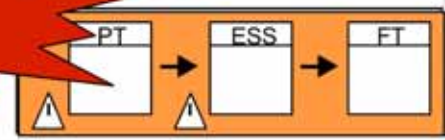


**FUTURE STATE**





**FUTURE STATE  
50% Cycle Reduction**





## Melbourne Ops Lean Transformation Plan

### **Pillars for Success:**

#### Material Focus: Supply Chain

- Full Risk Analysis & Mitigation strategies
- Supplier Kanban
- Safety Stock analysis
- Production Stock – right-size for pull
- Smaller Reel sizes – realign for supplier Kanban

#### Forecast & Planning stability

- Pull philosophy: build to customer requirement

#### Pull Production – Kanban replenishment

- Replenish when consumed – throughout value stream
- Applies to final build, sub assemblies, circuit board assemblies, production stock

# Melbourne Ops Lean Transformation Plan

## **Targeted Results**

- Improved Quality
- Improved On Time Delivery
- Total Inventory Reduction
- Cost Improvement

# Melbourne Ops Lean Transformation Plan

## What it takes to WIN – Supply Chain

- Mechanically speaking:
  - Supplier Kanban
  - Dock to stock transactions
  - Point-of-use delivery
  - Package quantity – sized for point of use Kanban (reels & loose parts)
- Partner against risk
  - Full Risk Analysis & Mitigation strategies
  - Safety Stock analysis

Ultimately, partnership relationships with fewer suppliers. Near-perfect to perfect delivery, quality, and production-friendly material presentation. (Point-Of-Use package quantities, delivered to the production area.)



## **Supply Chain Value Stream Lead**

- Develop and establish Kanban replenishment with suppliers
  - Establish Kanban communication
  - Inventory and Kanban sizing
  - Lead time reduction (supplier internal flow)
- Performance Risk and Capacity
  - Proactive “recovery” plans for high-risk areas
  - Long-term strategy to reduce risk and improve performance
- Reduce shortage risk – due to quality or delivery
- Streamline processes
  - Reduce first article receiving inspection
- Supplier selection criteria, qualification
  - Incorporate Lean criteria in selection process
  - Incorporate Kanban philosophy in our supplier relationships