

PIC Lean Activities: Office Kaizen Project

- **FY00** **VSM, Takt time, and factory split (WAM and GMTC)**
- **FY01** **MCI & FGI Kanban initiated**
- **FY02** **Re-layout & relocation of weld / assembly**
- **FY03** **Backlog reduction, WAM transition, & Setup time reduction (GMTC CNC lathes)**
- **Lean for FY04**
 - Office Kaizen
 - Structure weld layout
 - Capillary line relocation and re-layout
 - Setup time reductions and fixture additions & enhancements
 - Customer Kanban and automated ordering system

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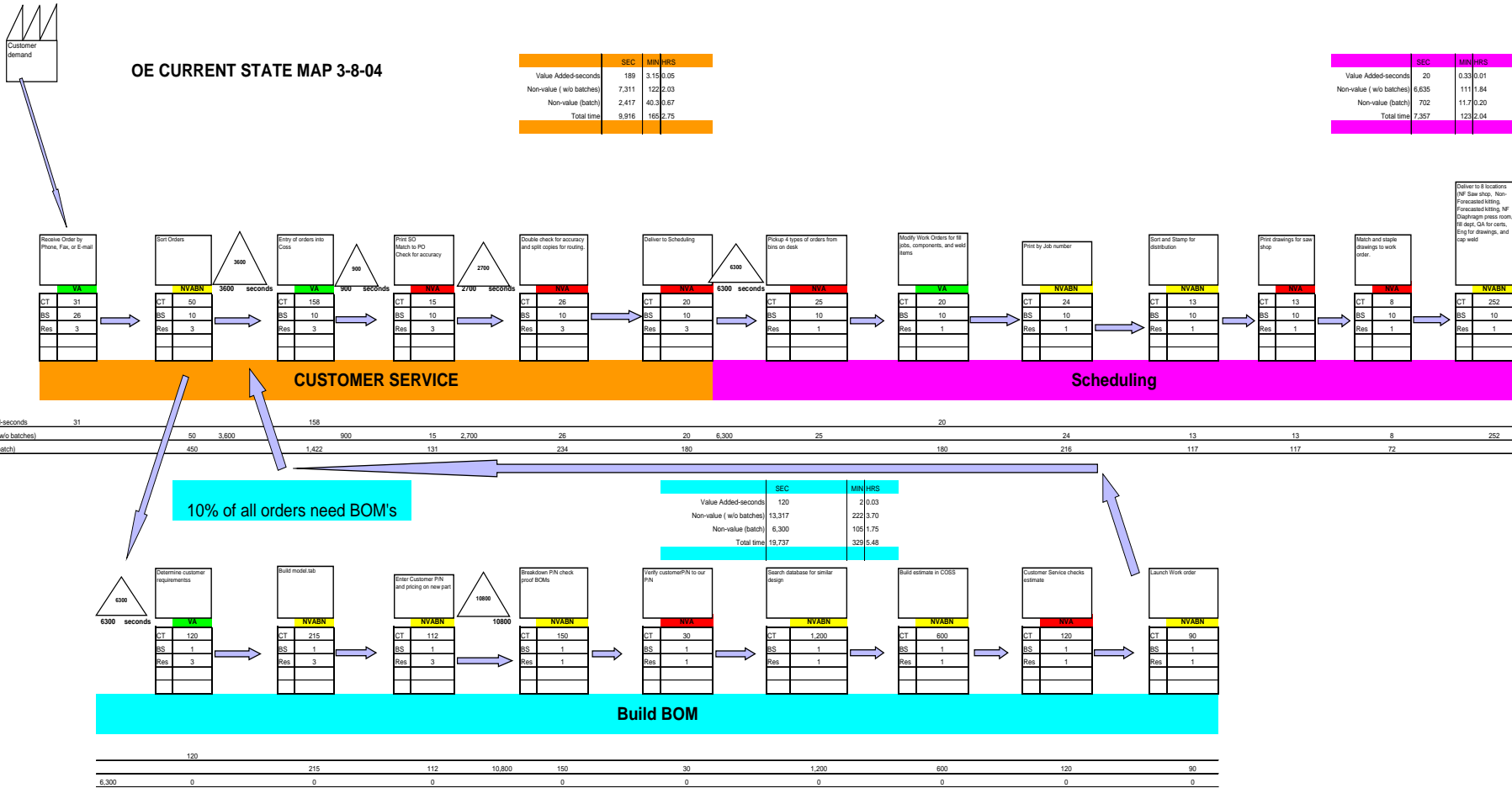
- **PIC Office Kaizen Event March 8-10, 2004**
- **Scope: Customer Service, Engineering, and Scheduling**
- **Goal:**
 - Reduce order cycle time from 1+ days to 30 minutes or less. Includes BOM modification product, excludes new drawing product.
 - Move order from order receipt to mfg within Takt time.

- **Used an outside consultant to facilitate a “Change Attitude”**
- **Keith Johnson, J & A International, Inc.**

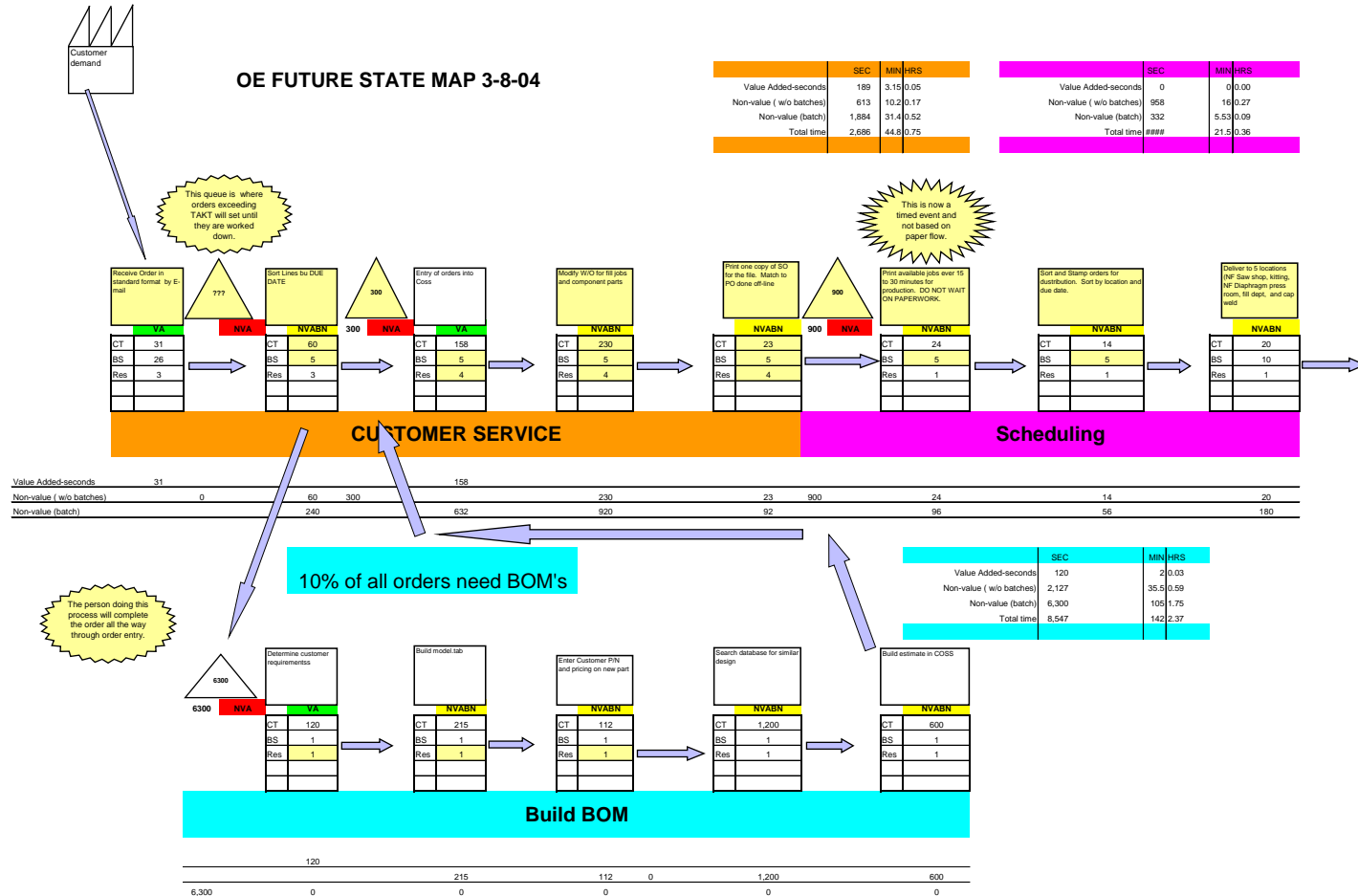
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- **Value stream map of the process**
 - Process is inherently non-value added
 - Found to be at about 2% value added
- **Identify non-value added and items that create extra work. Reduce as much as possible...keep it simple!**
- **Found that just by reducing and managing WIP, we can get to 1.5 hours from 1 day**
- **Calculated Takt time at 6 minutes**
- **5 lines max per batch**

Current State Map



Future State Map



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→ Goals

- Move orders through the shop in a one-piece flow system
- Eliminate all NVA activities
- Deliver orders to manufacturing 4+ times per day
- Reduce cycle time for orders with non-forecasted seals from 1+ days to 30 minutes

→ Accomplishments

- Move orders in batches of 5 lines at a Takt time of 30 min/batch for continual flow
- Eliminated all identified NVA activities
- Delivering orders to manufacturing 8-10 times per day with a goal of 14
- Reduced cycle time for orders all orders to <1.5 hours (Based on WIP counts we showed a 860% cycle time reduction)

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Current State

Total	sec	min	hrs	%
Value Added	221	3.68	0.06	1.1%
Non-value (w/o batches)	15312	255.20	4.25	79.4%
Non-value (batch)	3749	62.48	1.04	19.4%
Total time	19282	321.36	5.36	

→ Value added – Customer is willing to pay for this activity. We did not focus on this area. Small segment of the total.

→ Non-Value added – Customer is NOT willing to pay for this activity.

- Batch focus shows impact of moving to one piece flow.
- W/O batch focus shows impact of eliminating queues from the process.

Future State

Total	sec	min	hrs	%
Value Added	201	3.35	0.06	4.2%
Non-value (w/o batches)	1784	29.73	0.50	36.9%
Non-value (batch)	2846	47.43	0.79	58.9%
Total time	4831	80.51	1.34	

Improvement

Total	sec	min	hrs	%
Value Added	20	0.33	0.01	9.0%
Non-value (w/o batches)	13529	225.48	3.76	88.4%
Non-value (batch)	903	15.04	0.25	24.1%
Total time	14451	240.85	4.01	74.9%

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→ Office re-layout

- Load balancing
- Cross training
- WIP reduction and balance

→ Scheduling went from 1/day to 8+/day

→ Current actions: Begin limited order automation, e-drawings for GMTC

→ Next Phases: VSM of drawing process, Driving Takt time balancing into mfg