ACME Medical – A Case Study

ACME Medical manufactures a large rangle of products in many different sizes. The majority of products start out as castings which are then cleaned, machined (drill, mill, grind, polish), assembled, and inspected before final packaging and shipment to distributors. Some of ACME's lines are dedicated to single products while others are assigned a mix. The value stream in the following example manufactures forceps, cutters and scissors.

Products

Forceps
Small
Medium
Large

Cutters
12 cm with spring
10 cm with spring
8 cm no spring

Scissors
Small
Medium
Large
XLarge

Products/Process Matrix - Sets

Item	ID	Clean	Machine	Make Springs	Assemble	Inspect
Forceps SM	1	X	X		X	X
Forceps MD	2	X	X		X	X
Forceps LG	3	X	X		X	X
Cutters 8cm	11	X	X		X	X
Cutters 10cm	12	X	X	X	X	X
Cutters 12cm	13	X	X	X	X	X
Scissors SM	21		X		X	X
Scissors MD	22		X		X	X
Scissors LG	23		X		X	X
Scissors XL	24		X		X	X

Set A

Set B

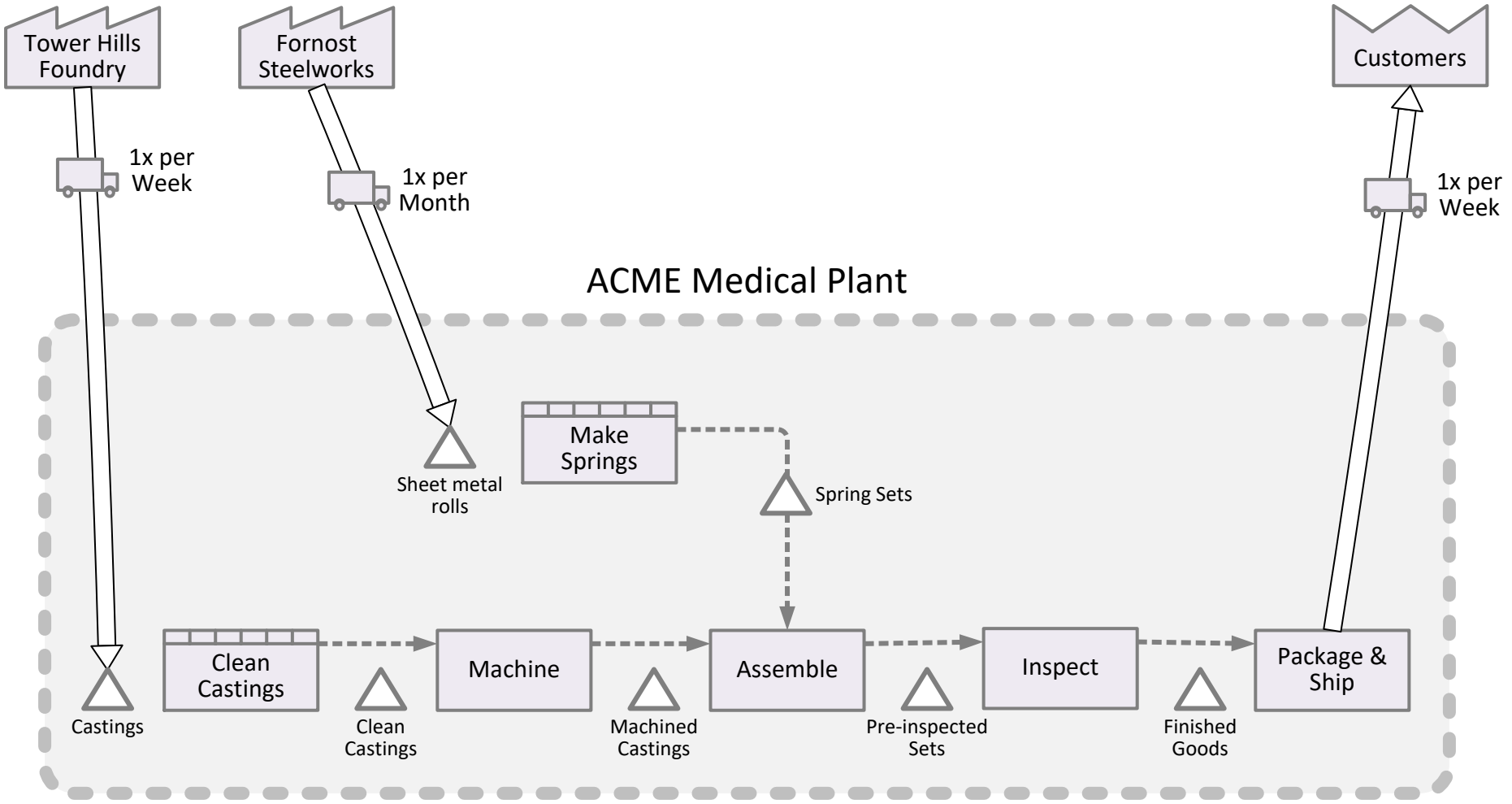
Set C

Cutters 8cm do not require springs so they are in Set A

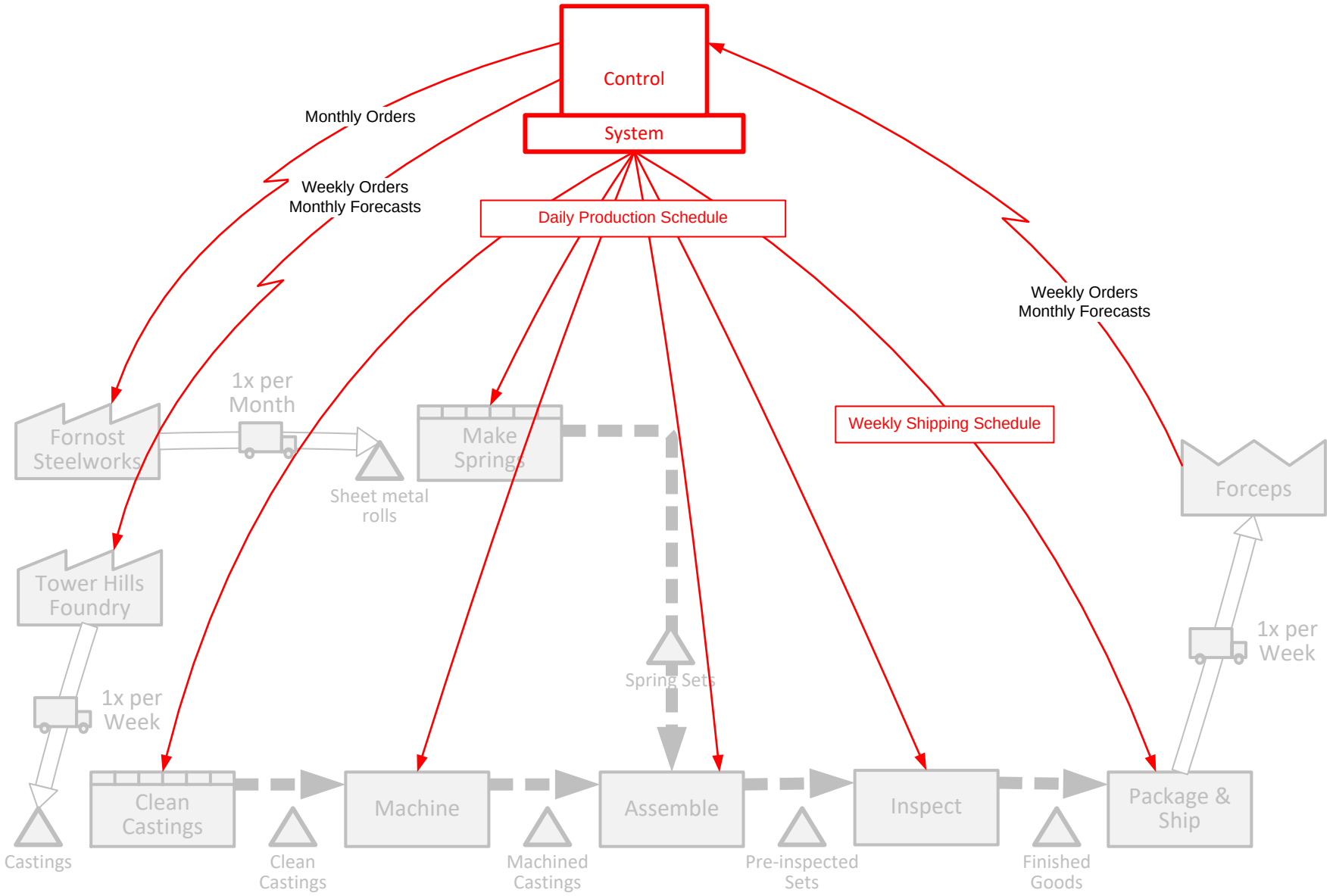
Scissor castings do not require cleaning

ACME Medical – Current State Material Flow

See castings and sheet metal rolls arrive into the plant, the main material flow within the pland, and final delivery to the customer.



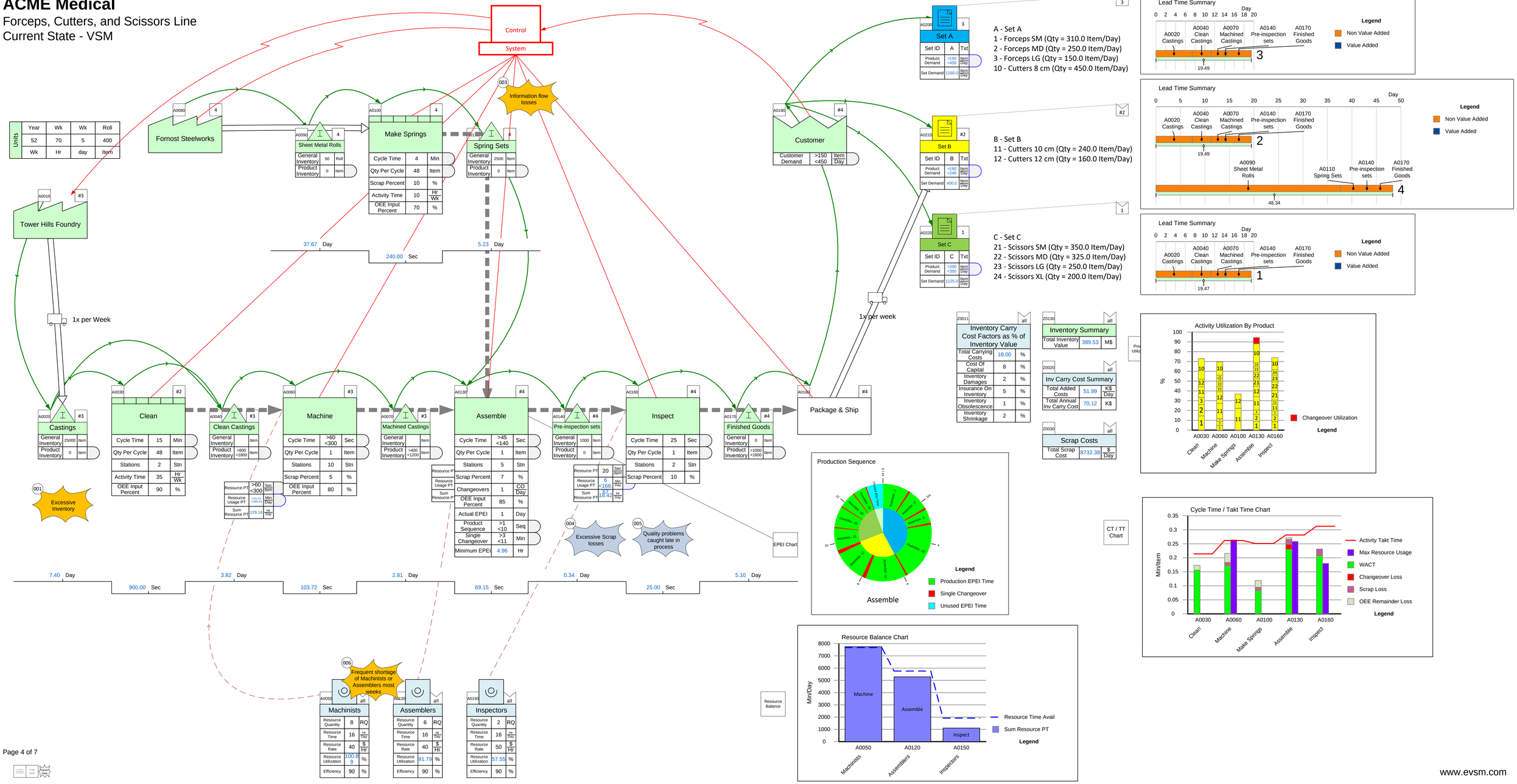
ACME Medical – Current State Information Flow



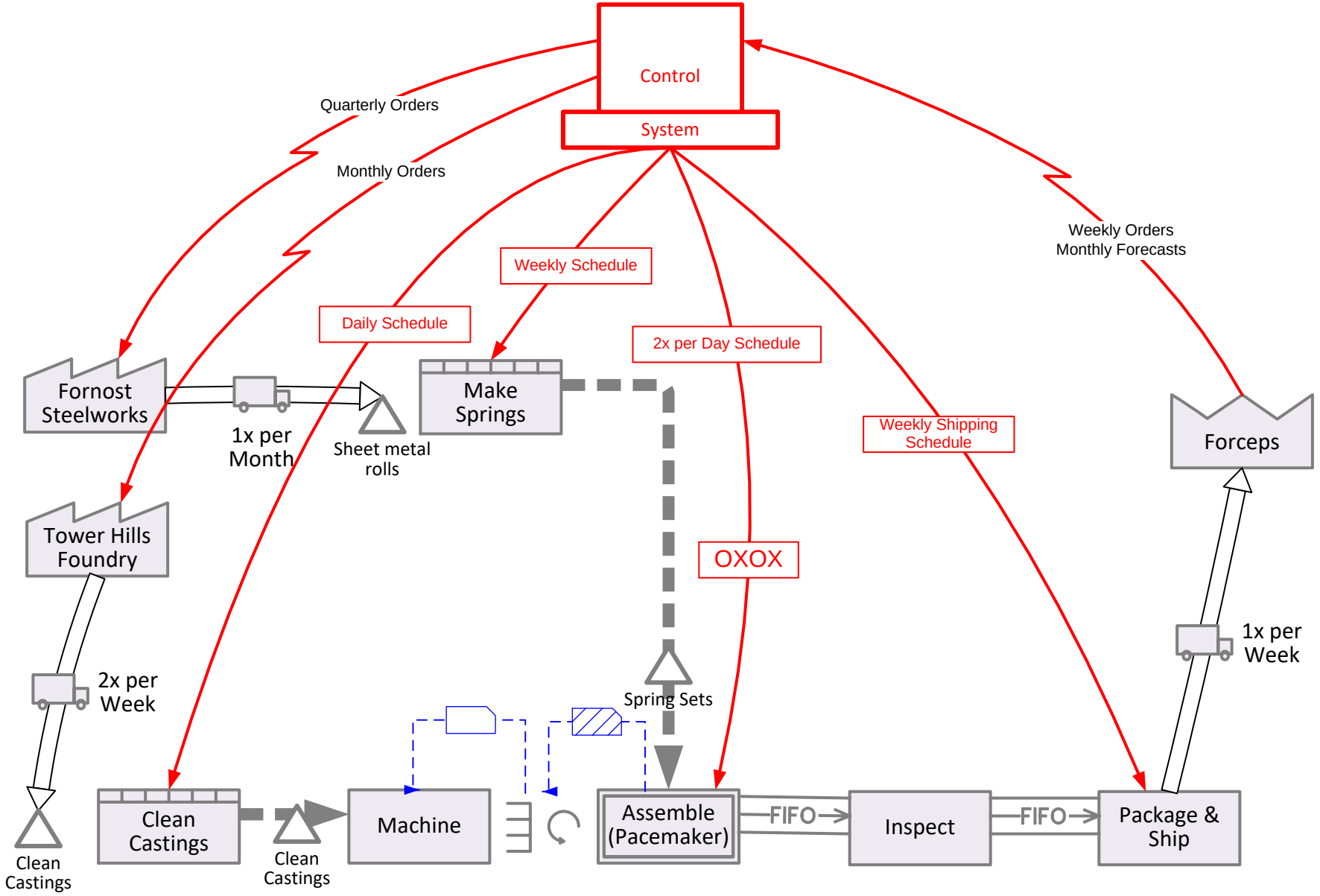
ACME Medical

Forceps, Cutters, and Scissors Line

Current State - VSM



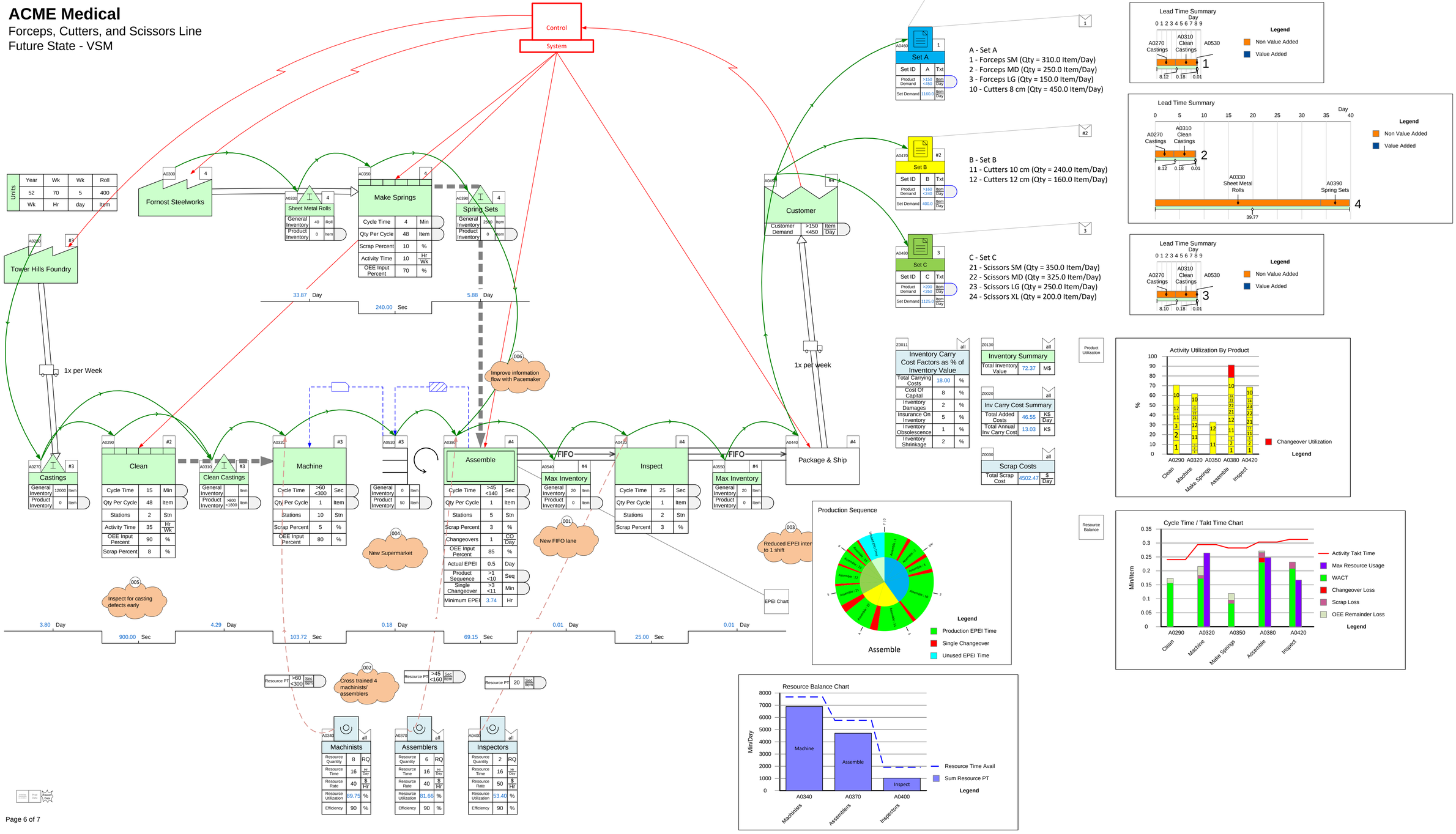
ACME Medical – Future State Material and Information Flow



ACME Medical

Forceps, Cutters, and Scissors Line

Future State - VSM



ACME Medical

Forceps, Cutters, and Scissors Line

3-month Improvement Plan

Proposed Projects

002 Improve information flow with Pacemaker

001 New FIFO lane

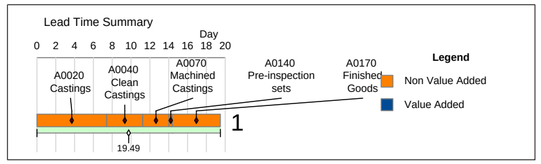
003 New Supermarket

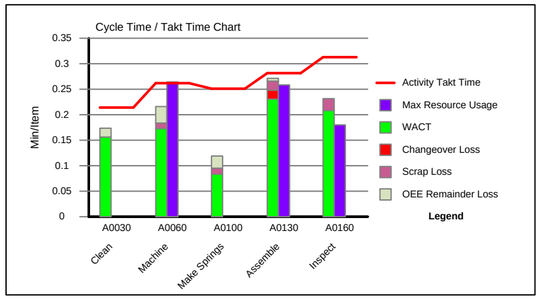
004 Cross trained 4 machinists/ assemblers

005 Reduced EPEI interval to 1 shift

006 Inspect for casting defects early

Current State





Z0130 all

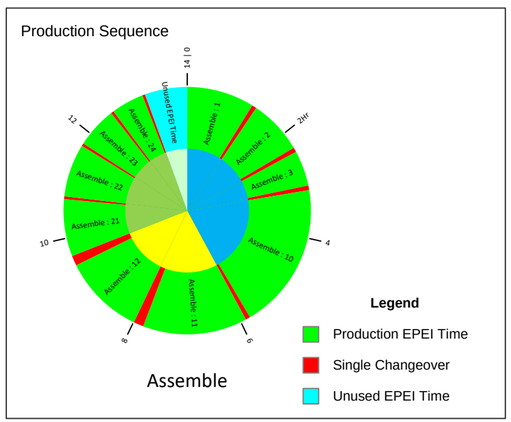
Inventory Summary		
Total Inventory Value	389.53	M$

Z0020 all

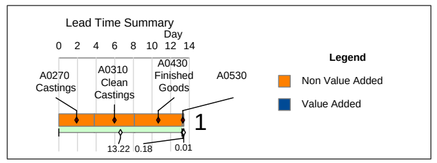
Inv Carry Cost Summary		
Total Added Costs	51.99	K$ / Day
Total Annual Inv Carry Cost	70.12	K$

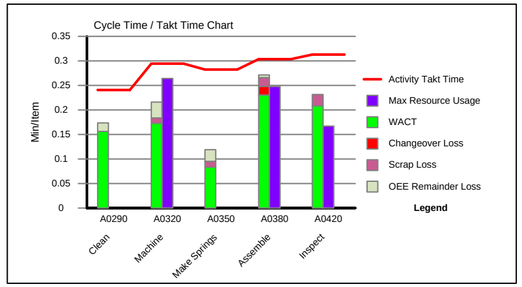
Z0030 all

Scrap Costs		
Total Scrap Cost	8732.38	$ / Day



Planned Future State





Z0060 all

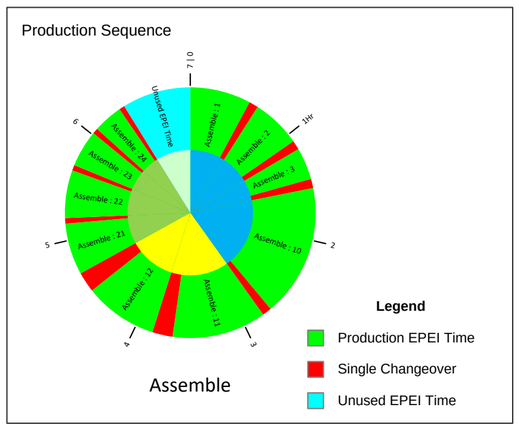
Inventory Summary		
Total Inventory Value	256.78	M$

Z0070 all

Inv Carry Cost Summary		
Total Added Costs	46.55	K$ / Day
Total Annual Inv Carry Cost	46.22	K$

Z0080 all

Scrap Costs		
Total Scrap Cost	4502.47	$ / Day



Business Impact

- 30% reduction in lead time
- Improved resource utilization
- 30% reduction in annual inventory carry cost
- $1M annual savings in scrap cost
- Assembly operation Interval reduced from 1 Day to ½ Day