



Improve On-Time Shipments
Lean Office Strategies
Reduced Lead Times

FlowVision®

**The Lean Business & Supply Chain
Consulting Group**



Lean/Flow

Lean: Reduce Waste

Flow: Reduce Queues

We will attack waste within the process (Lean) and design the process to reduce queue size & lead-time (Flow)

WHY IMPLEMENT LEAN/FLOW?

- REDUCED LEAD TIME
- Reduced Inventories
- Improved Cash Flow
- Improved Working Capital
- Reduction in Cost of Carrying
- Increased Inventory Turns
- Greater Productivity
- Improved Quality
- Improve Delivery Performance

**COMPETITIVE
ADVANTAGE**

THE RESULTS

(Caribbean)



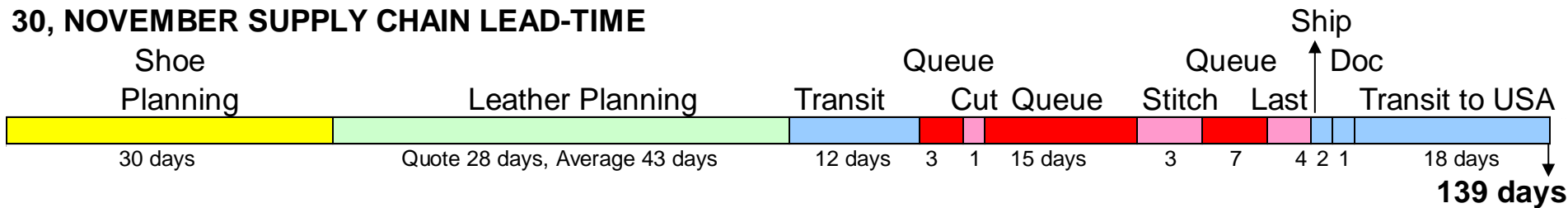
GOAL

- High quality shoe manufacturer
- Quicker response to the customer
- Lower manufacturing costs
- Long-term partnership with suppliers

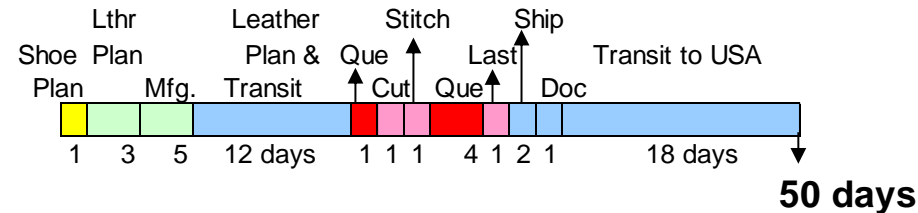
	Initial Performance	Flow Vision Performance	IMPROVEMENT
Manufacturing Lead Time	9 Days	2 Days	78 %
Supplier Lead Time	10-14 Wks.	2 Wks.	83 %
Customer Lead Time	12-16 Wks.	3 Wks.	79%

SHOE SUPPLY CHAIN LEAD-TIME (Asia)

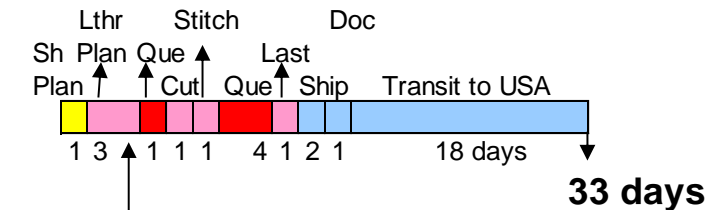
30, NOVEMBER SUPPLY CHAIN LEAD-TIME



LEAN/FLOW SUPPLY CHAIN LEAD-TIME FOR NON KANBAN LEATHER



LEAN/FLOW SUPPLY CHAIN LEAD-TIME FOR KANBAN LEATHER



Leather Kanban

THE RESULTS

Make to Order Stainless Steel Tanks

	Initial Performance	Flow Vision Performance	Improvement
Manufacturing Lead-time	20 Days	5 Days	75%
Order Entry Lead-time	10 Days	3 Days	70%
Engineering Change L/T	7 Days	1 Day	86%

LEAN/FLOW OFFICE DESIGN

- Define the Product
- Create Process Flow Charts
- Develop Standard Operation Sheets
- Define Product/Process Matrices
- Create Lean/Flow Timeline
- Calculate Takt
- Determine Resource Requirements
- Review Actual Requirements vs. Design
- Create the Office Layout
- Define Cells

LEAN/FLOW WORKSHOPS

- Create a team of people that are knowledgeable of the product you want to improve.
- Teach the process for improvement and implement in hands on workshop

Workshop 1

- Define the Products
- Create your process flow

Workshop 2

- Create a Lean/Flow timeline

Workshop 3

- Optimize your process flow & timeline

Workshop 4

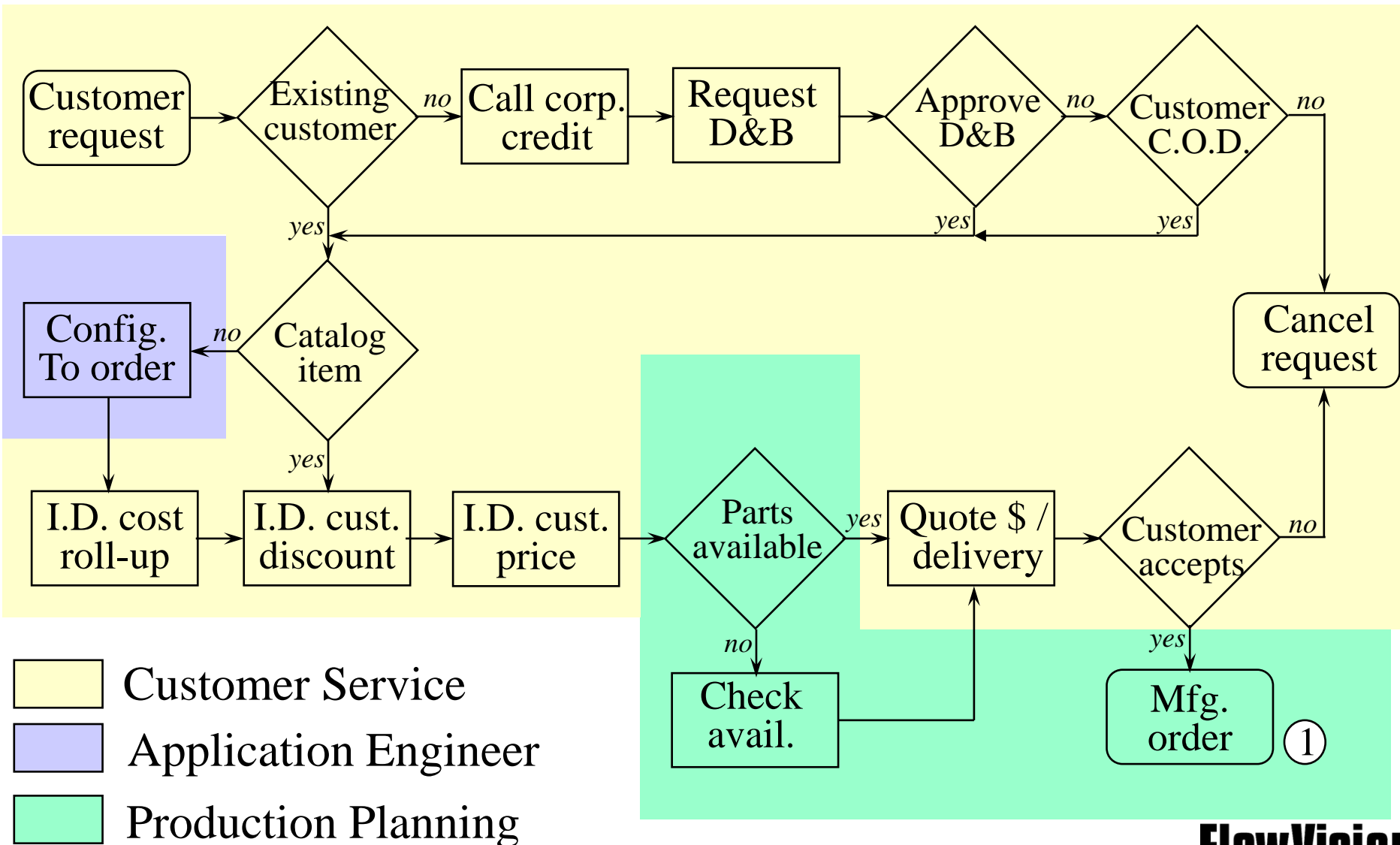
- Create the action plan to achieve the projected benefits

WHAT ARE PRODUCTS?

- Sales order entry
- Billing
- Engineering change
- New product design
- Recruitment
- Order sequencing to production

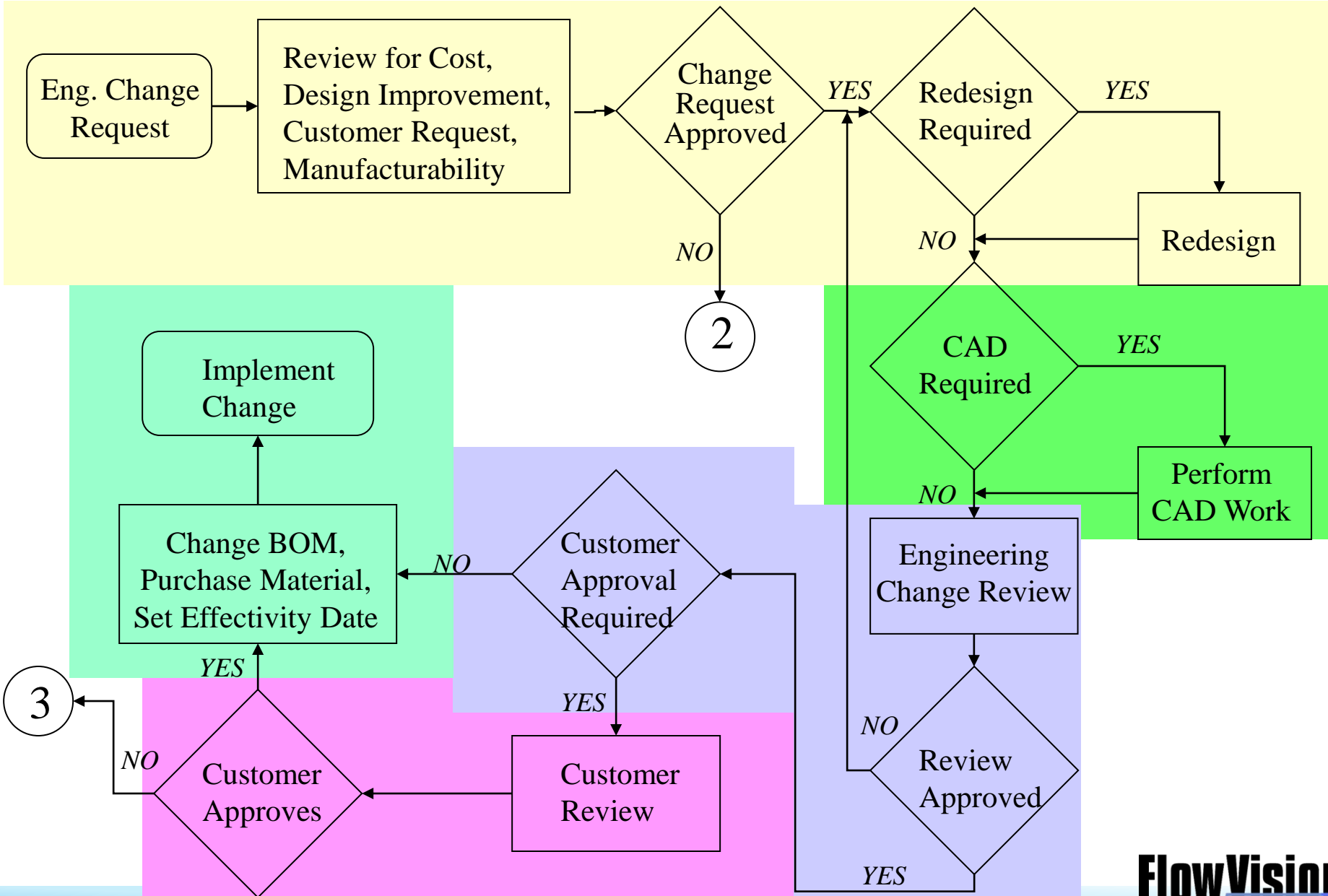
So, a PRODUCT in the office is an activity or series of activities performed to run the business. Products are typically produced to meet customer requirements.

QUOTE/ORDER ENTRY PROCESS FLOW CHART



- Customer Service
- Application Engineer
- Production Planning

EC PROCESS FLOW CHART



STANDARD OPERATION WORKSHEET

Standard Operation Work Content Sheet - OFFICE										page	of
Process Name <i>Configure to Order</i>					Product(s) <i>B Catalog Items</i>						
Written by <i>Mike Henderson</i>					Checked by <i>David Pytel</i>						
Work Sequence	Waste (X)	Work Content	Mach. Req.	Form No.	Labor Time	Mach. Time	Elapse Time	Critical Areas (right & wrong, safety and ease in operation)	Quality Check Freq.	Std. Oper. No.	
<i>010</i>		<i>Review order info. on computer</i>	<i>com.</i>	<i>12SO</i>	<i>2.3</i>	<i>2.3</i>	<i>2.3</i>	<i>Validate customer info. & spec. sheet complete</i>			
<i>020</i>		<i>Identify the product family for the order</i>	<i>com.</i>		<i>0.8</i>	<i>0.8</i>	<i>3.1</i>	<i>Check for multiple products</i>			
<i>030</i>		<i>Create new product configuration file into configurator</i>	<i>com.</i>		<i>3.2</i>	<i>3.2</i>	<i>6.3</i>	<i>Check proper order number</i>			
<i>040</i>		<i>Enter requested options from sales order</i>	<i>com.</i>		<i>15.6</i>	<i>15.6</i>	<i>21.9</i>	<i>Check to ensure proper options were entered</i>			
<i>050</i>		<i>Run configurator program</i>	<i>com.</i>		<i>.50</i>	<i>15.0</i>	<i>36.9</i>				
<i>060</i>		<i>Review configuration output</i>	<i>com.</i>		<i>10.0</i>	<i>10.0</i>	<i>46.9</i>	<i>Identify incompatible options</i>			
Percent of Total is Waste				Totals	<i>32.4</i>	<i>46.9</i>	<i>46.9</i>				

STANDARD WORK TIME

Product/Process Matrix

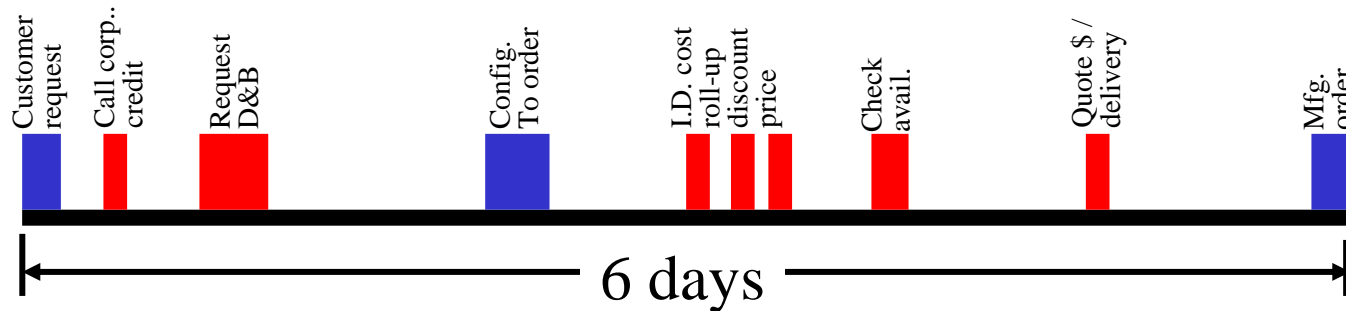
- The sum of the standard times from the standard operations worksheet for each resource type are placed into the appropriate field for each parent part on the product process matrix

STANDARD TIMES										
PRODUCTS	Cust. Service		App. Eng.		Design Eng.		Mfg. Eng.		Planning	
	M	L	M	L	M	L	M	L	M	L
Configure	60	60	65	65			20	20		22
New Product	34	34			550	1800	1500	1500		38
Quote Request	25	25	30	30			15	15		
Eng. Change	10	10			125	240	26	26		18

LEAN/FLOW TIMELINE

Workshop 2

- On the timeline, scale the length of time required to perform each process (blue = Value added work, red = Non-value added work)



- Determine the following ratios:
 - Total Process Time (VA & NVA) ÷ Total Time
 - Value Added ÷ Total Time
 - Value Added ÷ Non Value Added Time

PEOPLE & MACHINES FOR MULTIPLE PRODUCTS

- To determine the quantity of People & Machines required divide the Weighted Standard Time by Takt.

STANDARD TIMES			
PRODUCTS	Req.	Cust. Service	
		M	L
Configure	5	60	60
New Product	1	34	34
Quote Request	15	25	25
Eng. Change	4	10	10
Req.	25	25	25
Work mins./day		420	420
TAKT		16.8	16.8
Weighted Time		30.0	30.0
Machine/People		1.8	1.8

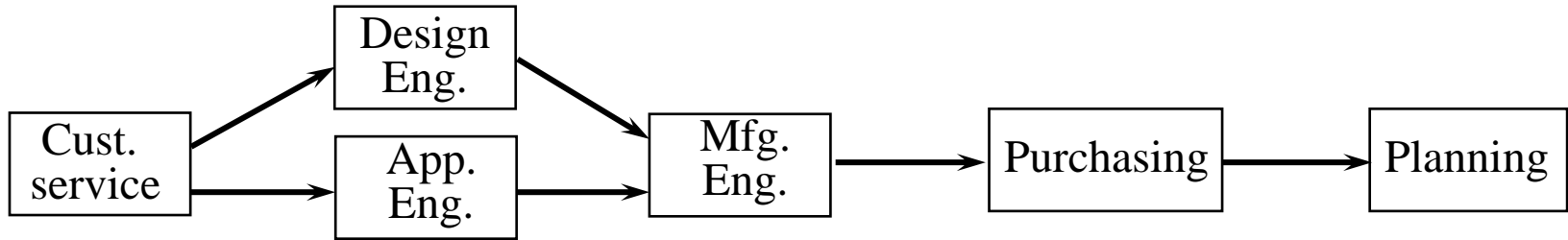
$$\frac{\text{Weighted Standard Time}}{\text{Takt}}$$

$$\text{Takt} = \frac{420}{25}$$

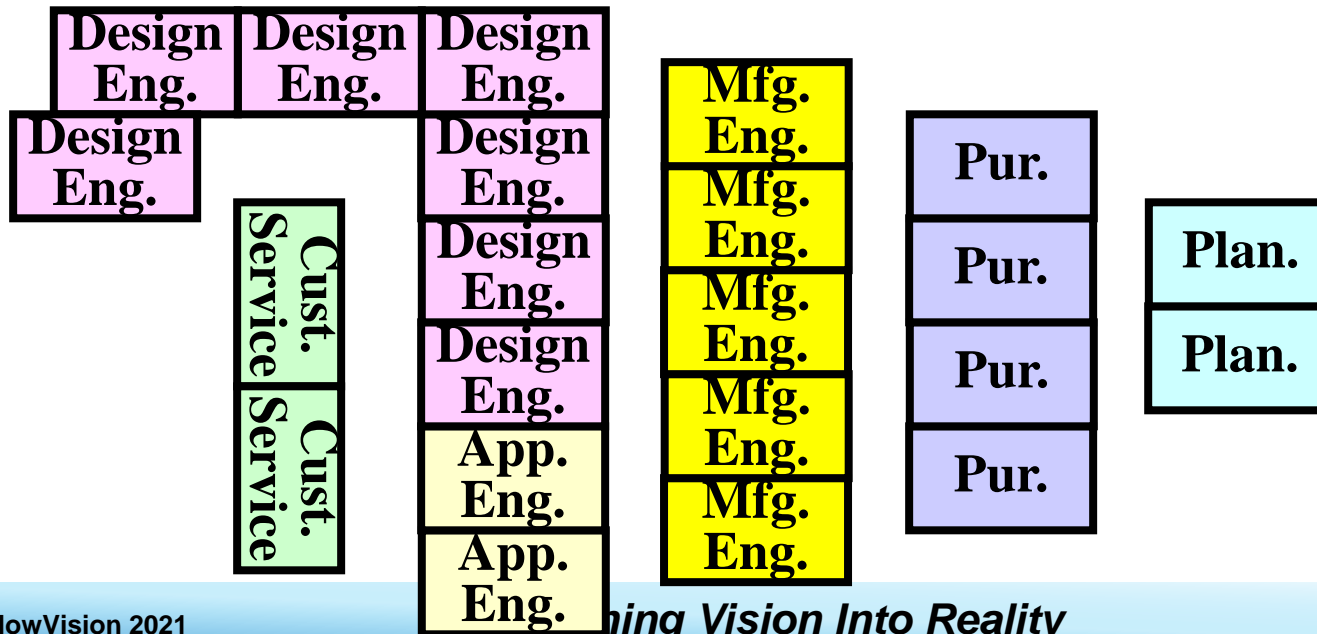
$$\text{Machine} = \frac{30}{16.8}$$

$$\text{People} = \frac{30}{16.8}$$

OFFICE DESIGN HAS DIRECT TIE TO PROCESS FLOW

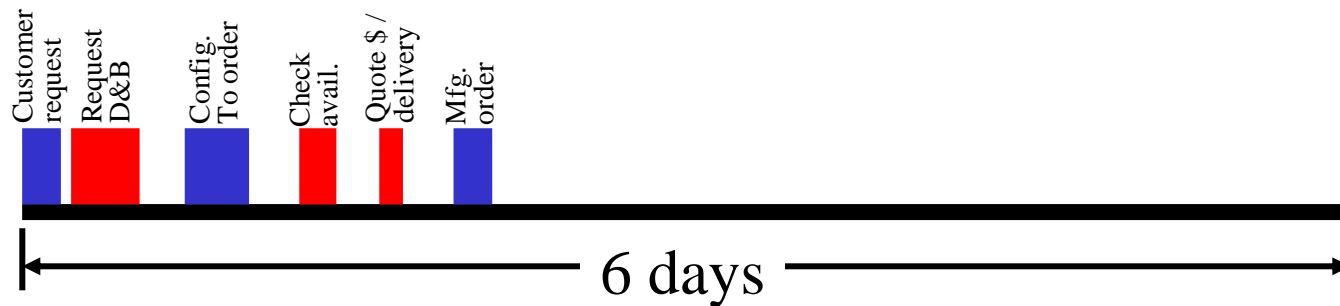


PRODUCTS	Req.	Cust. Service		App. Eng.		Design Eng.		Mfg. Eng.		Purchasing		Planning	
		M	L	M	L	M	L	M	L	M	L	M	L
Machine/People		1.8	1.8	1.8	1.8	2.5	6.6	4.6	4.6	3.5	3.5	1.9	1.9



Improvement Workshop 3

- Question: If you had no barriers or present constraints and had to reduce the total time to produce your product by 90%, what would the process look like?



- Identify the changes that would need to take place on the process flow & Lean/Flow timeline.
 - What would have to change for this to happen?
 - How long would it take to implement?
 - What is the cost of the implementation?
 - What improvements do you see?

IMPLEMENTATION PLAN

Workshop 4

- Develop the implementation plan
 - Rank each idea for
 - Impact (1 = high impact, 3 = low impact)
 - Difficulty (1 = easy, 3 = difficult)
 - Cost (1 = low cost, 3 = expensive)

What	Impact	Difficulty	Cost	Total	How	Who	When	Why
Standardize Contracts & processes	1	2	1	4				
Standardize options on external royalty split	3	2	1	6	Discussion with PM's/business units to set parameters	Ruza will lead	2020	Reduce contract va
Renegotiate time consuming contracts per cost/benefit	2	2	2	6	Pam B to determine which ones	am, Ruza & PM	Q1 2020	Cost exceeds bene
Term sheet drives whether free of charge/samples gets counted in report	3	3	3	9	Ruza will update term sheet to call out "Net" sales	Ruza	12/31/2019	System constraints
PM fills in term sheet	1	1	1	3	Give instruction to process, review term sheet, review license types with all stake holders, route to group, get mgt approval on form, training session	, review with Ja	2/28/2020	Reduce contract va
Fewer agreement flavors	1	3	1	5	Discussion with PM's/business units to set parameters	Ruza will lead	2020	Reduce contract va
More pressure on PM's to get license signed	1	3	1	5	Investigate DocuSign options for reminder, can we copy PM on reminders?	ruza, Melissa &	12/31/2019	Reduce Queue tim



**Thank you
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