

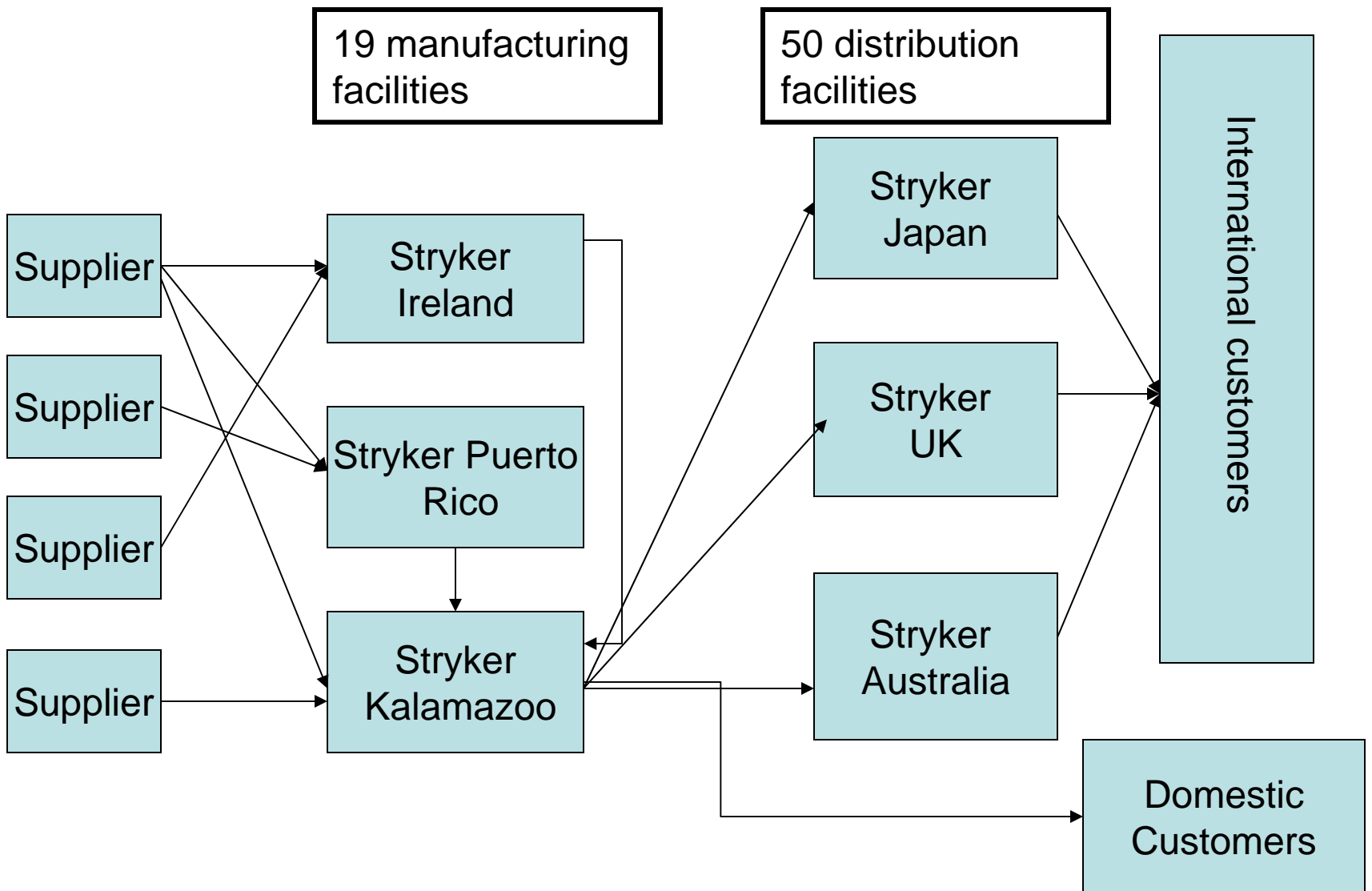
# Supply Chain Visibility and Collaboration

Mark Lincoln  
Senior Director, Operations  
Stryker Instruments  
April 7, 2005

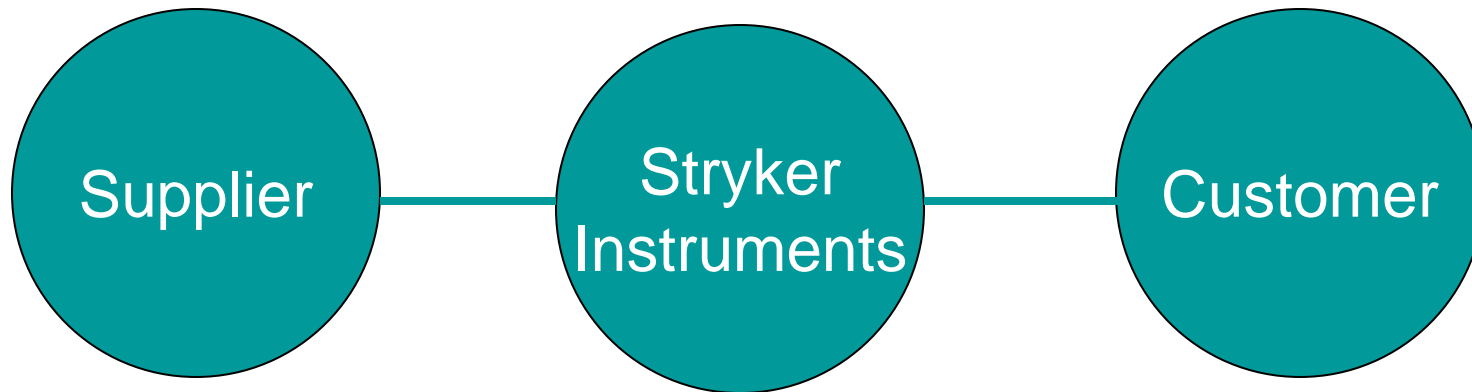
# Agenda For The Call

- Quick Stryker evolution
  - How we got here
- Process to find “the tool”
  - How we knew what we wanted
- The tool we found
- How we use it
- Results
- Questions/ open discussion

# Stryker Network Example



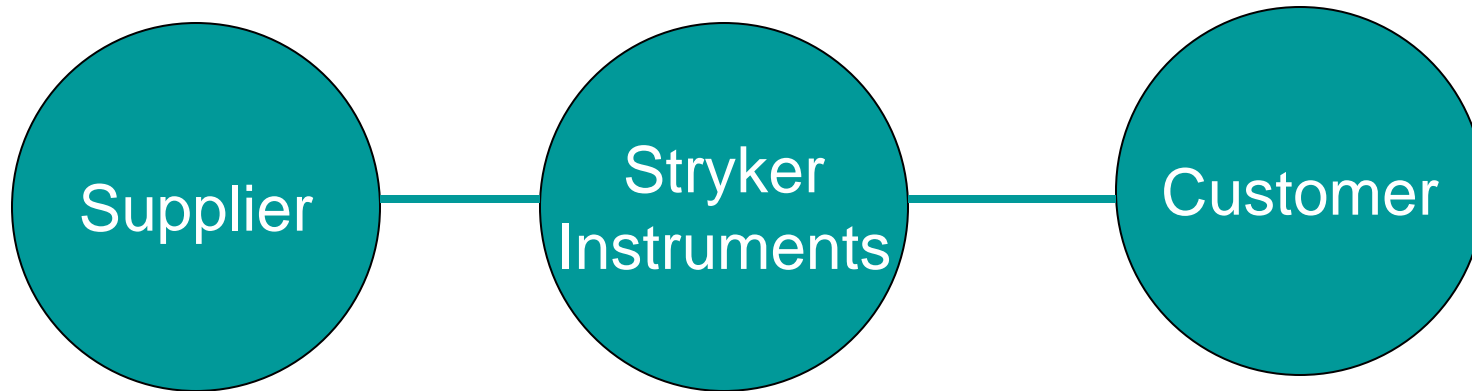
# The Late 90's



- Supplier Advisory Board
- Supplier Round Tables
- Blanket PO's
- Supplier Partnerships
- MRP II (+)
- Shop Floor Mgt
- % to MPS
- Bar Coding/automation
- Qualitative/Quantitative F/C
- On Time Delivery
- Repair/Service
- National Accounts
- EDI
- Global Focus

**True supplier partnerships. They had access to our information but still very manual and outdated. Information flow was one-directional**

# 2000 and Beyond



- Blanket PO
- Certified Parts
- Partnerships

•Web based E-Commerce

- KISS2K
- DFT
- Lean Mfg

- E-Commerce with Subs
- Partnerships
- 1 Stop Shop

**The next level. Vendor managed inventory.  
Ability for the supplier to control their  
destiny throughout the entire supply chain**

# Vendor Managed Inventory

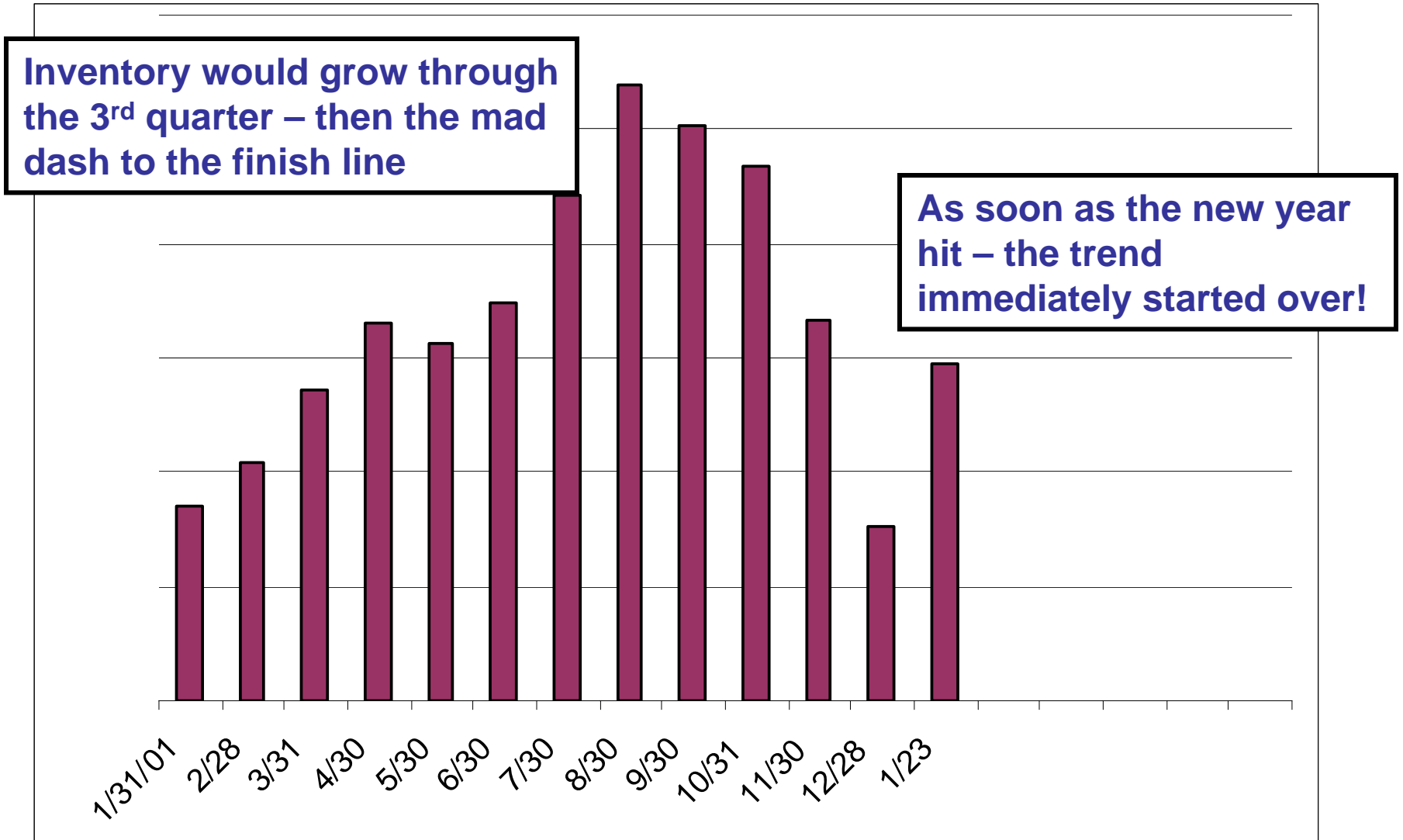
## **APICS Definition:**

A means of optimizing supply chain performance in which the supplier has access to the customer's inventory data and is responsible for maintaining the inventory level required by the customer. This activity is accomplished by a process in which re-supply is done by the vendor through regularly scheduled reviews of the on-site inventory. The on-site inventory is counted, damaged or outdated goods are removed, and the inventory is restocked to predefined levels. The vendor obtains a receipt for the restocked inventory and accordingly invoices the customer

## **My Definition:**

- Give our suppliers all the necessary information, real time, and let them control our inventory.

# Where We Were: Typical Inventory Trend



# Game Plan:

We knew what we wanted, that was the easy part

- Lower component inventory from our suppliers
- Better visibility to our finished goods inventory throughout the world
- Reduce administrative costs through entire Supply Chain
- Little IS resource requirement
- Rapid ROI
- Bottom line – run a better business!



# Game Plan:

We needed to understand what our suppliers wanted/needed:

1. Created an e-commerce steering committee
2. Developed survey for each member to fill out ranking all the business systems in order of importance and priority

# Decision Process

Overall Business Survey

Can they be answered with e-commerce?

What supply chain problem would it solve?

What is the priority?

Functional specs for project – what the project has to accomplish

# Functional Specs: (From both ends of the Supply Chain)

Number 1 issue to be addressed?

- **Forecasting and real time communication of business needs!**

Agreed upon our original functional specs:

- Lower component inventory from our suppliers
- Better visibility to our finished goods inventory throughout the world
- Reduce administrative costs through entire Supply Chain
- Little IS resource requirement
- Rapid ROI
- Bottom line – run a better business!

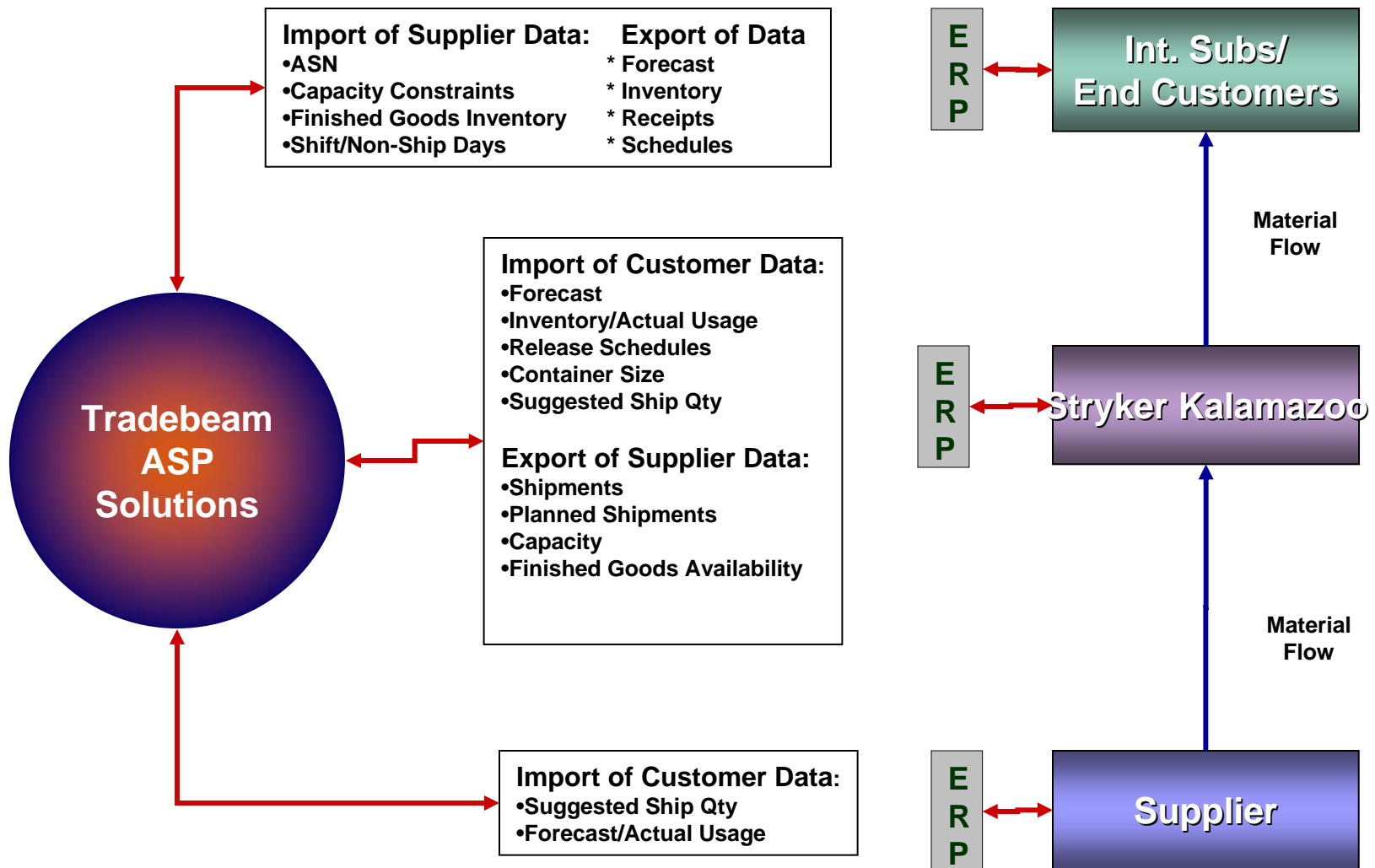
# Decision Process:

- Took Functional specs to IS department
  - “Sure we can do it, just give us 12-18 months and we will have it completed”
- Shopped around all the solutions and laid them against our functional specs
- Led us to Tradebeam
  - isupply software

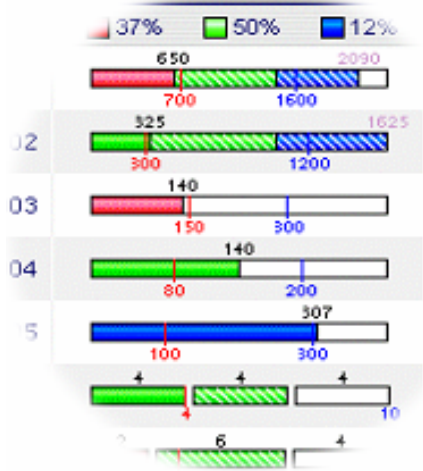
# How it works

- Customer sets up minimum and maximum inventory targets for each part
  - Red, green, and blue zones
- Supplier is given freedom to manage the inventory within that “zone”
- **KEY TO SUCCESS:** Supplier has all the visibility in order to make better decisions
  - Live on hand inventory
  - Forecasted usage
  - Actual historical usage
  - In transit inventory

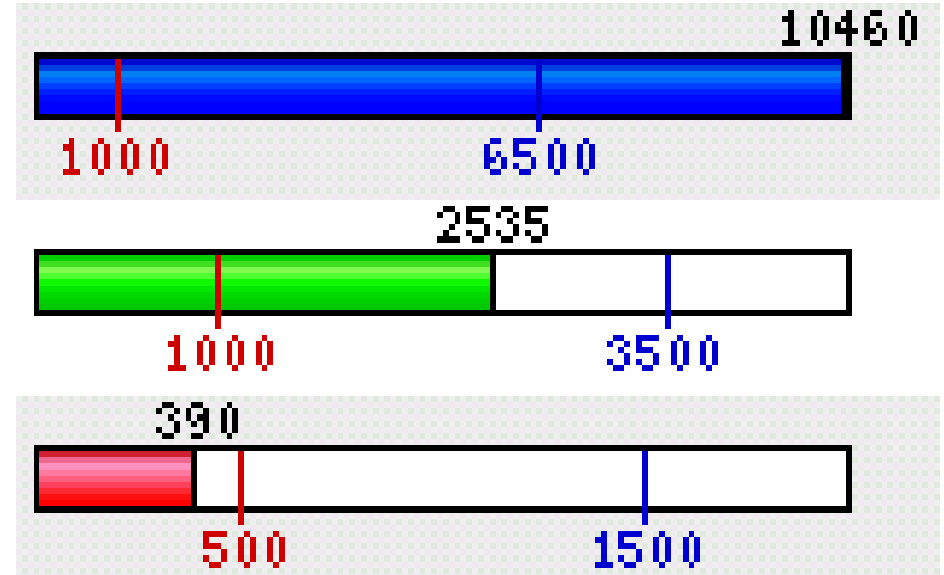
# Supplier EDMM/i-Getit – Bi-Directional Flow



# The Status Bar



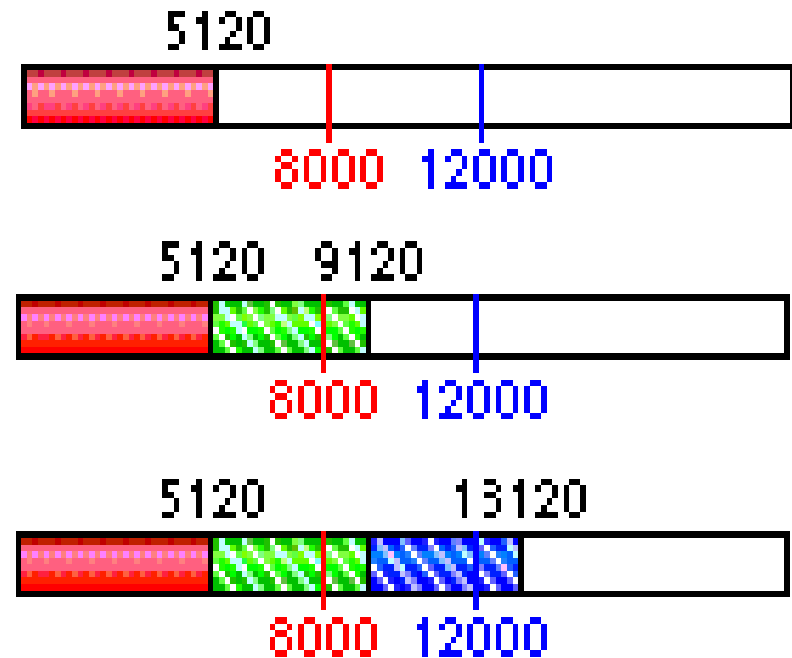
- Over Max
- Between Min Max
- Under Min



The Status Bar fills with a color that depicts the current level of inventory. If the current inventory is over the maximum, the bar is blue. If the current inventory is between the minimum and maximum, the bar is green. The bar is red if the current inventory is below the minimum.

# The Status Bar – with Advance Ship Notices(ASNs)

- No ASNs – On-Hand Inventory is in the red (5120)
- One ASN – When shipments arrives, the Projected inventory is in the green (9120)
- Two ASNs – When the first shipments arrives, the Projected inventory is in the green. When the second shipment arrives the Projected inventory is in the blue (13,120)





# Inventory Console - Item Status

Suppliers of Norton Motor Company - Microsoft Internet Explorer

Inventory Console

Preferred CONFIGURE

INVENTORY SHIPPING RATINGS SEARCH 00:00

Item	Status	Suggested Delivery	ASNs	Next Shipment			Last Delivery		Average Daily Use		Forecast	
				Qty	Date/Time	Shipping ID	Qty	Date/Time	Week	YTD	Week1	Avg
<b>Alpha Corp</b> 6 of 7 17% 66% 17%												
1AU001		700	1	500	10/27/00 09:10	102501	2100	10/27/00 09:11	350	238	1600	161
1AU002		190	1	100	10/27/00 09:10	102501	650	10/27/00 09:11	99	79	500	57
1AU003		95	0	100	10/30/00 08:16		300	10/27/00 09:11	57	40	250	25
1AU004		100	0				320	10/27/00 09:11	49	35	150	15
1AU005		305	1	250	10/27/00 09:10	102501	600	10/27/00 09:11	121	86	500	50
1AU006		N/A	0				1400	10/26/00 11:41	301	301	750	75
<b>Tierone, Inc.</b> 5 of 5 40% 40% 20%												
1WP001		2550	1	2000	10/27/00 0							
1WP002		200	0									
1WP003		100	0									
1WP004		N/A	0									
1WP005		775	1	500	10/27/00 0							
<b>Toptier Industries, Inc</b> 6 of 6 50% 50% 0%												
1BA001		3000	1	2000	10/27/00 13:40	102602	6000	10/27/00 13:38	857	597	5000	552

**Real-time inventory status based on min/max quantity levels**

**Alerts sent to email, pager, fax when quantities exceed targets**

**In-transit inventory displayed as hashed lines, triggered by supplier's ASN**

# Demand History and Forecast:

Item	Status	Average Daily Use		Forecast Schedule		
		3 Weeks	YTD	Daily	Weekly	Wkly. Avg.
🕒 ▼ Biomedical Devices - Costa Mesa						
82 of 553	<span style="color: red;">■</span> 31% <span style="color: green;">■</span> 33% <span style="color: blue;">■</span> 34%					
0700020000	575 1475  <span style="color: red;">4225</span> <span style="color: blue;">7394</span>	162	141	180	2469	951

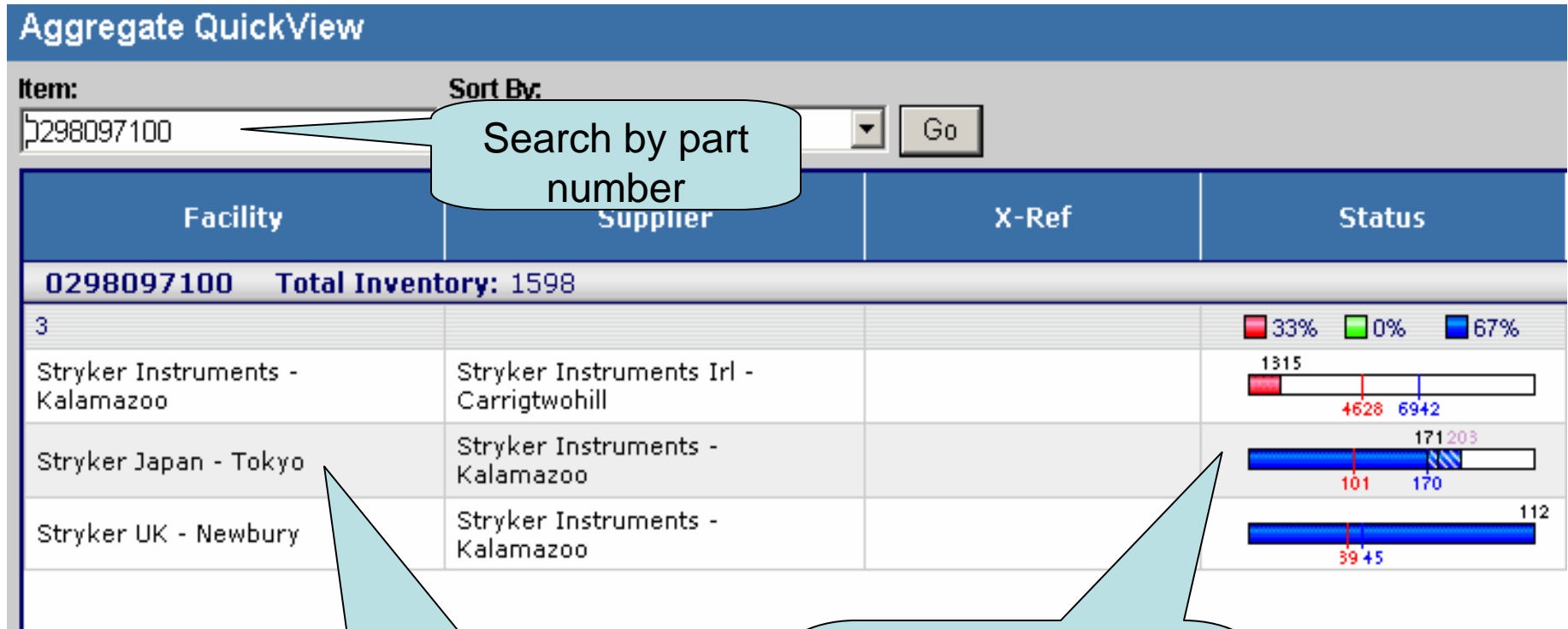
Can view past demand trend – what direction has it been going?

Can compare that to our live forecast – where is it going? – 192/day

# Future Forecast Information:

Item	Status	Average Daily Use		Forecast Schedule		
		3 Weeks	YTD	Daily	Weekly	Wkly. Avg.
🕒 ▼ Biomedical Devices - Costa Mesa						
82 of 553	<span style="color:red">■</span> 31% <span style="color:green">■</span> 33% <span style="color:blue">■</span> 34%					
0700020000	574 1474  +225 7394	162	141	2469	1469	951
0400800000	1997 2697  +243 6714	157	154	754	2935	853
0400600024	884 2384  1800 4000	65	108	756	445	372
0400600021	3072  1800 4000	77	135	1367		
0400820000	2477 3227  1485 5996	71	73	815	439	367
0400600019	884 1424  900 2000	38	74	978	426	355
0400600020	1509  900 2000	38	76	810	238	200
0400600034	1722  900 2000	32	70	810	237	199
0400600033	1848  900 2000	32	69	812	220	194
	451 901			1144	220	193
				838		
				838		
				840		
				1478		
				718		
				862		
				862		
				862		

# Global Inventory View:



Search by part number

3 different ERP systems:  
PRMS  
JDEdwards  
MFGPro/ QAD

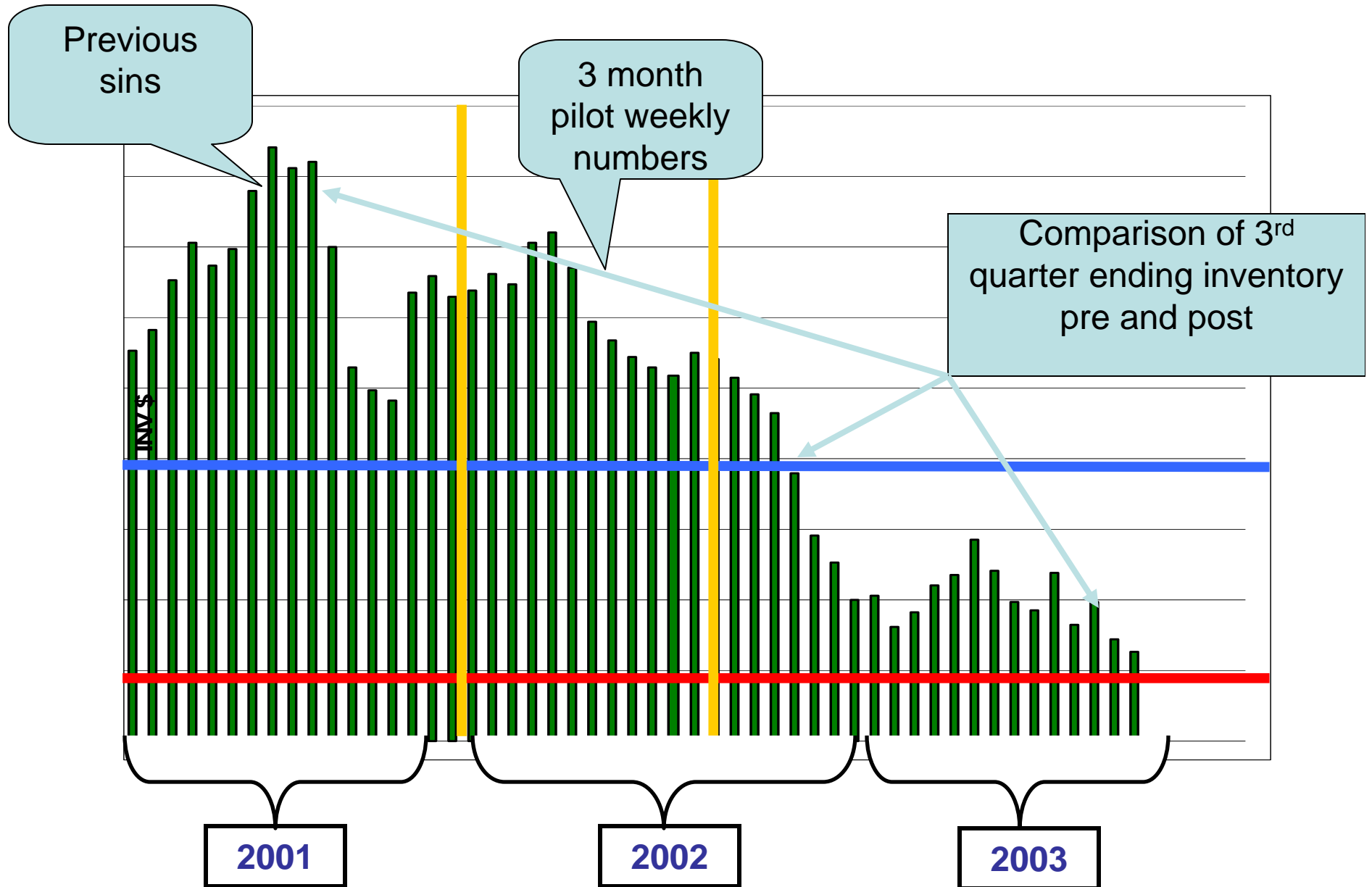
Can view live inventory at all 3 locations:  
Kalamazoo, MI  
Tokyo, Japan  
Newbury, UK

# Global Inventory, 90 days later:

Aggregate QuickView			
Item:		Sort By:	
0298097100		Facility- Supplier- Status	Go
Facility	Supplier	X-Ref	Status
<b>0298097100 Total Inventory: 4926</b>			
3			<div style="display: flex; justify-content: space-between;"> <span>100%</span> <span>0%</span> <span>0%</span> </div>
Stryker Instruments - Kalamazoo	Stryker Instruments Irl - Carrigtwohill		<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">4776</div> <div style="margin-right: 10px;">8396</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>7371</span> <span>11057</span> </div>
Stryker Japan - Osaka	Stryker Instruments - Kalamazoo		<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">117</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>125</span> <span>195</span> </div>
Stryker UK - Newbury	Stryker Instruments - Kalamazoo		<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">33</div> <div style="margin-right: 10px;">38</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>39</span> <span>45</span> </div>

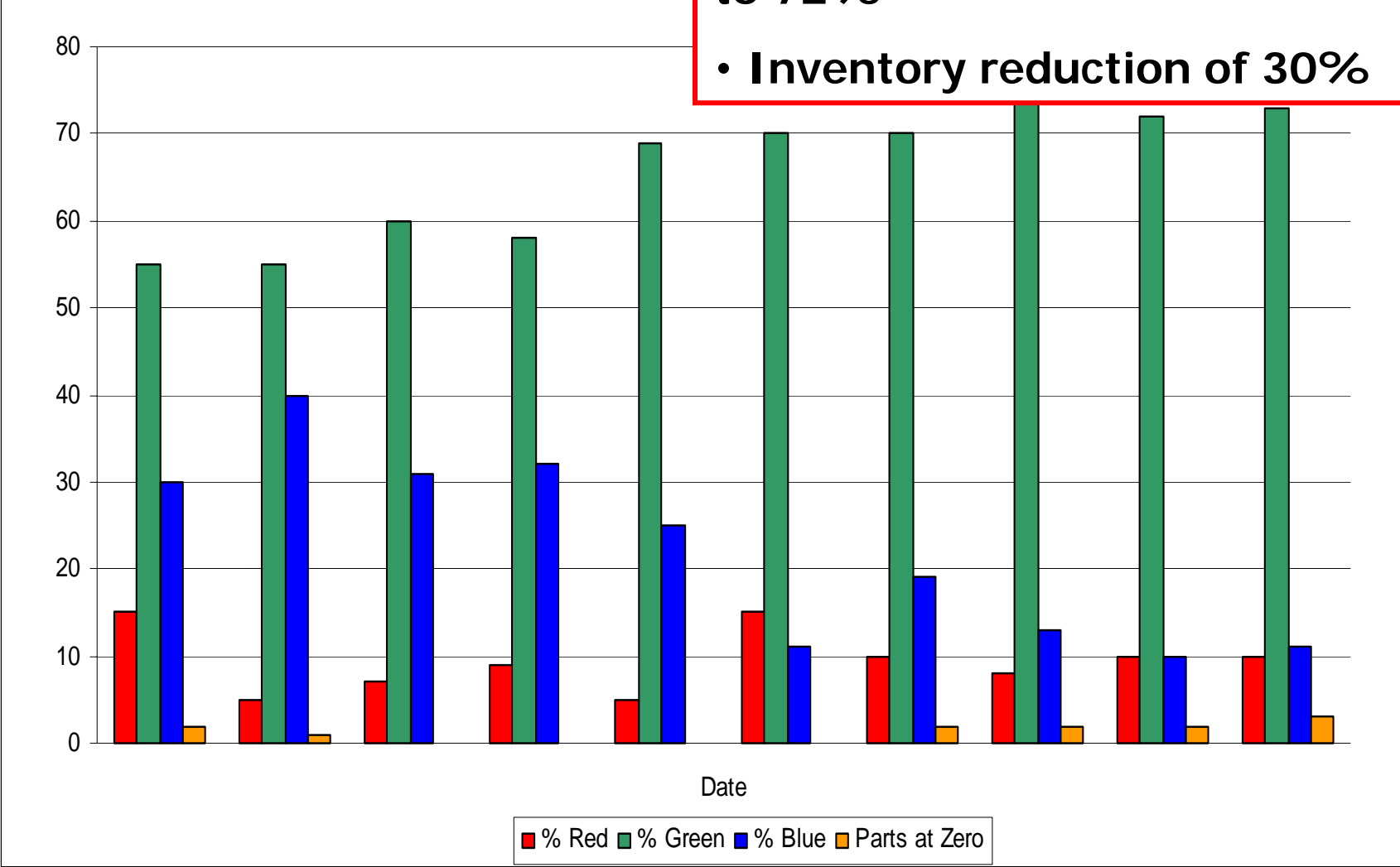
**Did It Work??**

# Where We Are Now:



# Stryker Japan

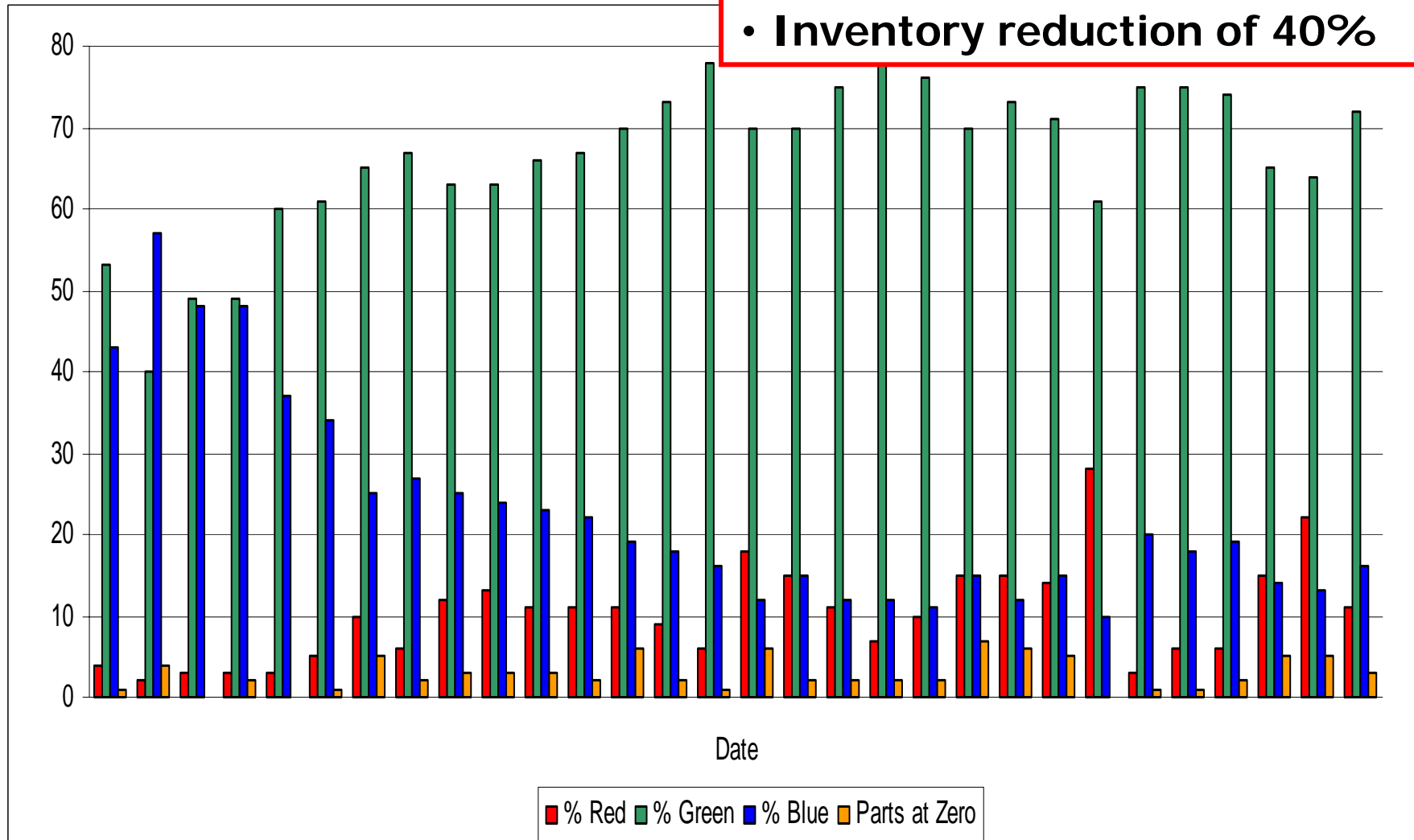
- % blue reduction from 40% to 12%
- % green increase from 42% to 72%
- Inventory reduction of 30%





# Stryker UK

- % blue reduction from 58% to 15%
- % green increase from 45% to 72%
- Inventory reduction of 40%



# Inventory Savings 90 days after launch:

- Instruments – Kalamazoo • 40%
- Instruments – Ireland • 25%
- Instruments – Puerto Rico • just started
- Leibinger – Germany • 17%
- Leibinger – Kalamazoo • 33%
- Stryker Japan • 27%
- Stryker UK - Newbury • 40%

---

**30.3%**

# Additional Savings

- Kalamazoo went from 2 buyers in each unit to 1
  - Managed 18% increase in purchases with less headcount the last 2 years
- Visibility has allowed better global service levels
  - Kept parts in the red but not stocked out in order to ship to other locations
- Reduction in freight expediting
  - Supplier delivery scenarios
- Eliminated manual order entry for UK parts
- Time spent only on exceptions - not all part numbers
- Visibility to upper management on all parts
- Increased financial planning for components and finished goods
  - Easy to measure monthly targets and impact on inventory/absorption

# Questions/ Open Discussion

For more information on iSupply, please contact:

Tim McKeegan

Account Manager, TradeBeam

Phone: (650) 653-4819

Email: [Tim.McKeegan@tradebeam.com](mailto:Tim.McKeegan@tradebeam.com)

[www.tradebeam.com](http://www.tradebeam.com)