



# **TOC – IMPLEMENTATION - TANISHQ**

**SANJAY RANAWARE**

**&**

**P.SUKUMARAN**



## SANJAY RANAWARE

B.E ( Electronics) & PGDBM having total industrial experience of 25 years .

Presently Head of Manufacturing for Jewellery Div. of Titan Industries Ltd having Tanishq & Gold plus Brand.

Actively involved in the implementation of TOC at retail front as well as in the manufacturing for last 3 years.

Prior to Joining with Titan Industries Ltd worked with M/s Moser Baer India Ltd, Sterlite Optical tech Ltd , Godrej telecom Ltd & Bharat electronics Ltd.



SANJAY RANAWARE  
GENERAL MANAGER – ISCM  
TITAN INDUSTRIES LTD  
JEWELLERY DIVISION  
HOSUR



## **P.SUKUMARAN**

Mr. Sukumaran is currently the Group Manager and Head of Supply Chain & Logistic Management at Titan Industries, Hosur (a TATA group company).

Mr. Sukumaran has experience of over 25 years across different functions including Supply Chain, Retail, and Marketing. He played a key role in the launch of “GOLDPLUS”, a Jewellery brand for the mass market in India. He has successfully implemented ‘Theory of Constraints’ (ToC) in the Jewellery Division of Titan.

Mr. Sukumaran has been trained in ToC at the Goldratt Consulting Group in Israel. He has also presented a case study on the Titan experience with ToC at the TOCICO International Conference held in New York, USA in 2011.

Mr. Sukumaran has a Diploma in Mechanical Engineering and has completed his Executive MBA degree from Alliance Business School, Bengaluru. He is the recipient of the “Best Outstanding Supply Chain Manager 2011” award from the Indian Institute of Materials Management.

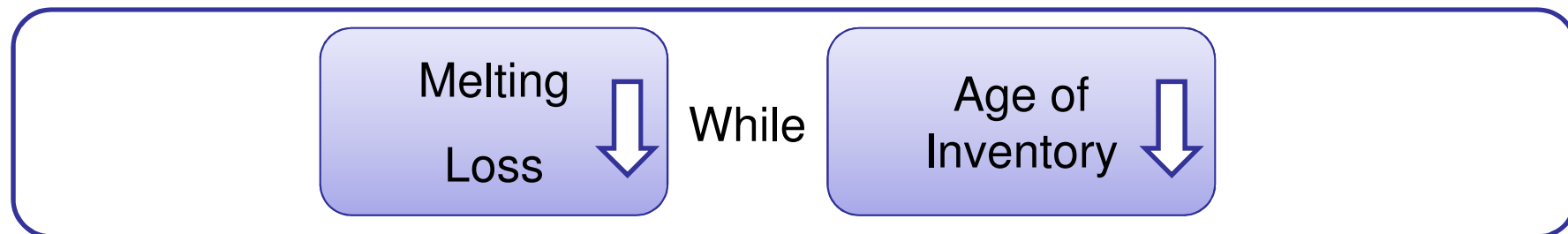
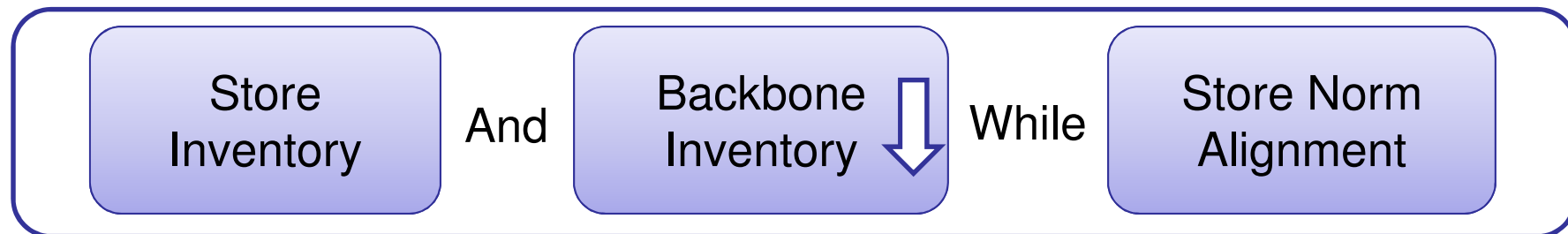


P.SUKUMARAN  
GROUP MANAGER – SCM & LOGISTIC  
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JEWELLERY DIVISION  
HOSUR



## TOC Global Improvements

- Our TOC initiatives yield Global Improvements if they positively affect ALL relevant Prime Measurements





## **TOC - OBJECTIVE**

- ✚ Exceed the company ambitious goal of 10,000 Cr. sales by 14-15 and 1,000 Cr. PBT with lesser resources and risk.**



## The Approach

 **Titan Jewelry division effectively establishes processes to maximize yield from its resources.**

- **Stock investment (existing and new).**
- **Stores**



## Challenges in Merchandize Management

- ✚ Some fast moving items are not available in the store for about 15-20 weeks a year (on average)
- ✚ Much of the products in the universe do not get the chance to develop significant sales level (90% of SKUs contributes 35% sales).
- ✚ There is a long and fat tail by nature (20% of stock is over a year old).



## Guidelines

- ✚ Build ownership of stores by co-creation and implementation of solution.
- ✚ Focus! Defining ‘what not to do’ (now) is as important as defining ‘what to do’.



## Titan's quest to improve inventory effectiveness

### Effective merchandise

- MTR of Best Sellers (Head)
- Daily Indenting Process (Body)
- Rotation of Aged Inventory (Tail)
- New Product Introduction Process



## ‘Best seller’ - Objective

- ✚ Have the right best sellers in each store
- ✚ Ensure high availability of best sellers to the stores

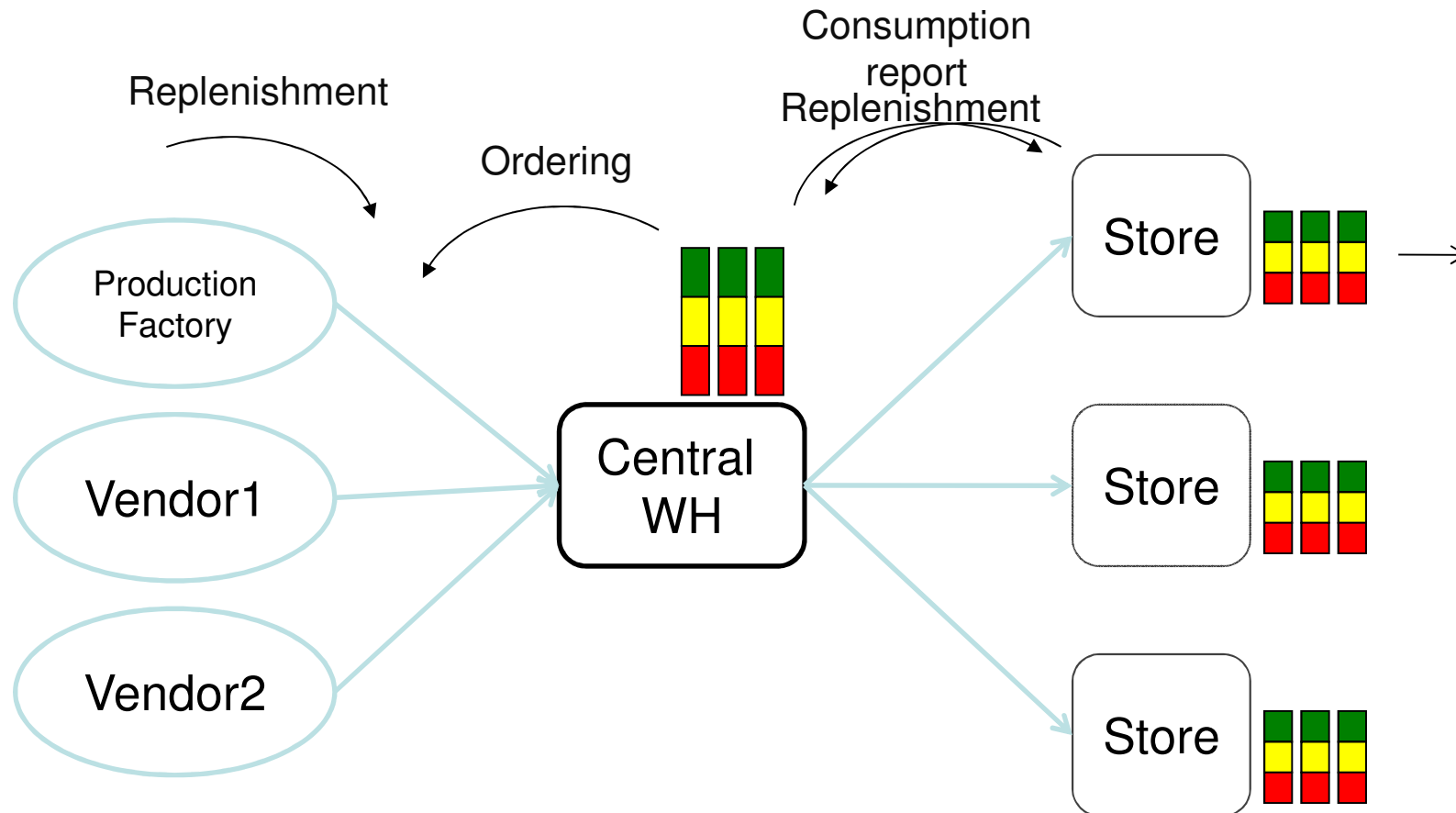


## MTR (Made To Replenishment) process

- ✚ Back-end stock buffer is built to support sales of best sellers (about 3k SKUs out of 100K)
- ✚ Best sellers are on auto-replenishment to stores with a supply time of 2 days
- ✚ Back-end stock is dynamically managed to match actual demand



## MTR with 'Pull' distribution





## Ongoing management of Best - sellers

- ✚ The list of best sellers is revised - Quarterly, some SKUs are deactivated and new ones are populated
- ✚ A best sellers not selling within 2 months at the store is deactivated from the store and recalled to central stock



## Indenting process - Objectives

- Refreshing the store merchandise
- Minimizing the store's tail
- Generating best sellers



# Indenting Evolution



Till ' 2005



Till'2011



Since 2012



## Snapshot of Cat\_pb level indent

Brand	No of BTQ's	Avg. Indent / Day	Inv @ Store	No of Cat_PB	Model Stock Count	No of Designs
TANISHQ L1_2/ MIA/SIS	95	2745	3.9 Lacs	19797	22.5 Lacs	25950
GOLDPLUS	31	308	1.2 Lacs	16361	6.9 Lacs	20411
TOTAL	126	3053	5.1 Lacs	36158	29.4 Lacs	46361



# Daily indent thru Symphony software

Replenishment Recommendations

Actions: Select Recommen..., Save, Cancel, Execute

Views: Save View, Manage Views, Restore Original Vi..., [prabhu](#)

Export, Print

Consumed SKU

Recommended SKU

Common		Consumed SKU				Recommended SKU				Actions	
Stock Location	Category	SKU	Type	Shelf Age	Quantity	SKU	Type	Quantity in Pipeline	Quantit	Accept	Select...
▾										<input type="checkbox"/>	Select...
▶	CBE	STUDED - COLOR STONESBANGL(75+)	511095VRCQ1A18	Inactive	441	1 512311VDUR1A40	MTAR	0		<input type="checkbox"/>	Select...



# Daily indent thru Symphony software



Alternate SKUs

Select alternate SKUs  
Select the SKU to order or the quantity desired of 1 or more SKUs

SKUs					Regional Sales				Actions	
Name	Description	Type	Pipeline	Permitted	Monthly Average		Total	Order	Select	
511183VNSR 1A18		MTAR		1	2		1.7	5.0	1 <input checked="" type="checkbox"/>	

Select similar SKUs

SKUs					National Sales		Regional Sales		...
Name	Type	Pipeline	Permitted	Month...	Total	Monthly Average	Total	...	
511183VNSS1A18	MTAR		0	2	3.0	3.0	2.0	2.0 <input type="checkbox"/>	
511183VNSR 1A18	MTAR		1	2	3.2	29.0	1.7	5.0 <input checked="" type="checkbox"/>	

Record 1 of 2

OK Cancel





## Tail Rotation - Objectives

- ❑ On an average 30% of the store's inventory is 6 months and older
- ❑ Customers and sales consultants are excited about new and fresh merchandise
- ❑ Activations move inventory but don't change fundamentally - the percentage of aged inventory



## Tail Rotation - Approach

- Channel the aged inventory to stores that have demand for these items
- The daily indent list from each store is compared with the other store's aged inventory
  - Aged inventory is recalled when there is a match and is redistributed to the stores that order it
  - The stores that have to give back aged items, indent fresh items for replacement



# Effectiveness of Tail Rotation



Month	QTY in Nos				
	Recall	Received	Dispatched	Sold	%
Apr-12	5773	5229	5025	4048	81%
May-12	9178	8635	8406	6476	77%
Jun-12	12622	11690	11308	8696	77%
Jul-12	5669	5372	5160	3233	63%
Aug-12	4031	3706	3615	1601	44%
Sep-12	4809	4414	4345	2195	51%
Oct-12	5674	5068	4950	2795	56%
Nov-12	5523	5273	5178	2126	41%
Dec-12	15134	14172	13853	3178	23%
Jan-13	8420	7590	7162	1124	16%
Feb-13	8393	6183	3719	372	10%
<b>Total</b>	<b>85226</b>	<b>77332</b>	<b>72721</b>	<b>35844</b>	<b>49%</b>

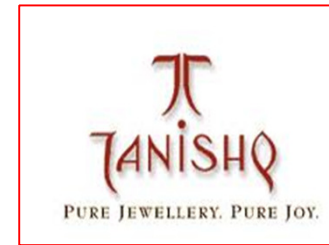
91% 94%

Month	Wt. in KG's (Plain)				
	Recall	Received	Dispatched	Sold	%
Apr-12	62	55	53	42	80%
May-12	97	90	86	64	75%
Jun-12	51	47	44	32	73%
Jul-12	42	39	38	27	71%
Aug-12	37	34	33	14	43%
Sep-12	38	35	34	19	55%
Oct-12	56	49	48	29	61%
Nov-12	36	34	33	16	48%
Dec-12	129	123	119	26	21%
Jan-13	89	80	74	12	16%
Feb-13	79	58	33	3	10%
<b>Total</b>	<b>716</b>	<b>644</b>	<b>595</b>	<b>284</b>	<b>48%</b>

90% 92%

Month	Value in Crores (Studded)				
	Recall	Received	Dispatched	Sold	%
Apr-12	11	10	9	6	65%
May-12	19	18	18	12	68%
Jun-12	55	50	49	35	71%
Jul-12	25	23	22	11	52%
Aug-12	15	13	13	5	35%
Sep-12	21	18	18	8	44%
Oct-12	12	11	11	2	23%
Nov-12	23	22	22	7	32%
Dec-12	35	31	30	6	21%
Jan-13	14	12	11	2	17%
Feb-13	17	12	7	1	15%
<b>Total</b>	<b>247</b>	<b>220</b>	<b>210</b>	<b>96</b>	<b>45%</b>

89% 95%



## New Product introduction - Objective

- ✚ Previous process: ~10,000 new products introduced yearly in two major events.
- ✚ Stores were called to a NPIM event to evaluate the new designs and select the bulk of new products they desire .
- ✚ Yet...
  - Very few new products became best sellers.
  - Large amount of the new products ended up as slow moving items.





## Why do New products fail?

- New products are introduced in areas in which they are not needed .
- Successful new products are sold, yet never reordered!.
- The scope of new products is too high.

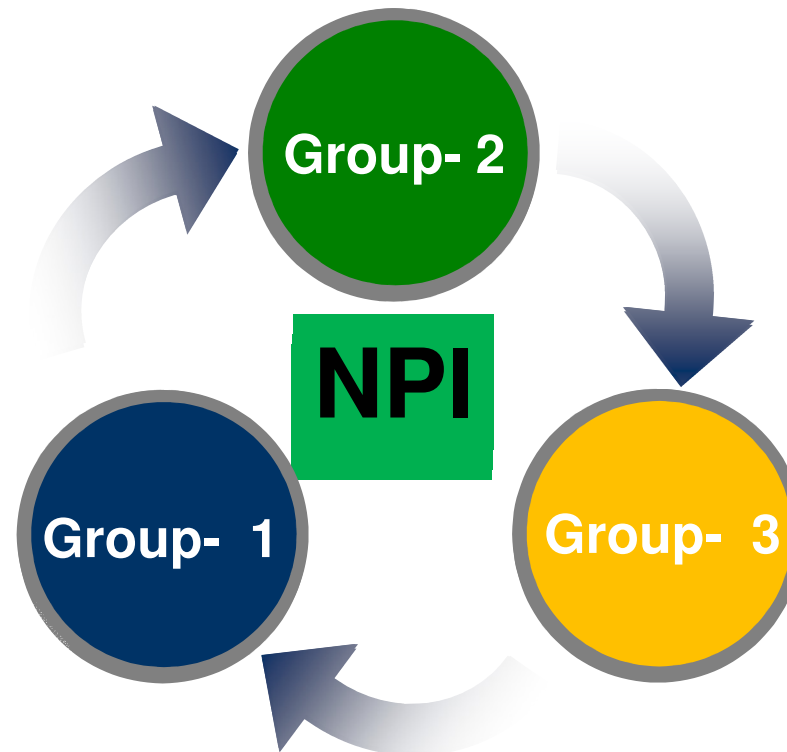


## New Product introduction - Approach

- Refreshers are introduced only in Categories and Price Bands that need them!.
- New products need to be properly tested before being widely spread.
- New products should get a chance to become best-sellers .
- There is a need to show newness in the store frequently.

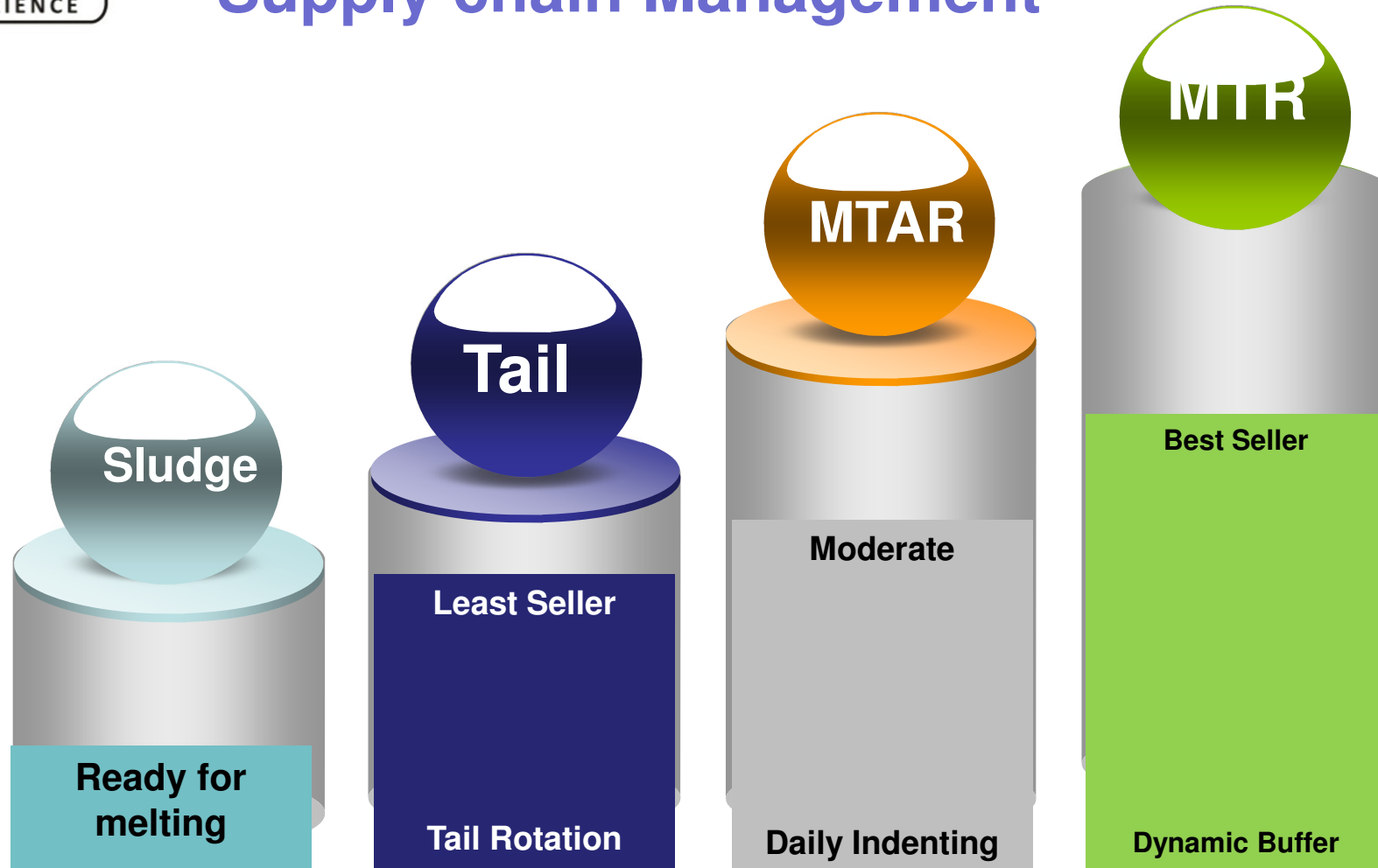


## New NPI process - Illustration





# Supply chain Management





# Inventory & Alignment

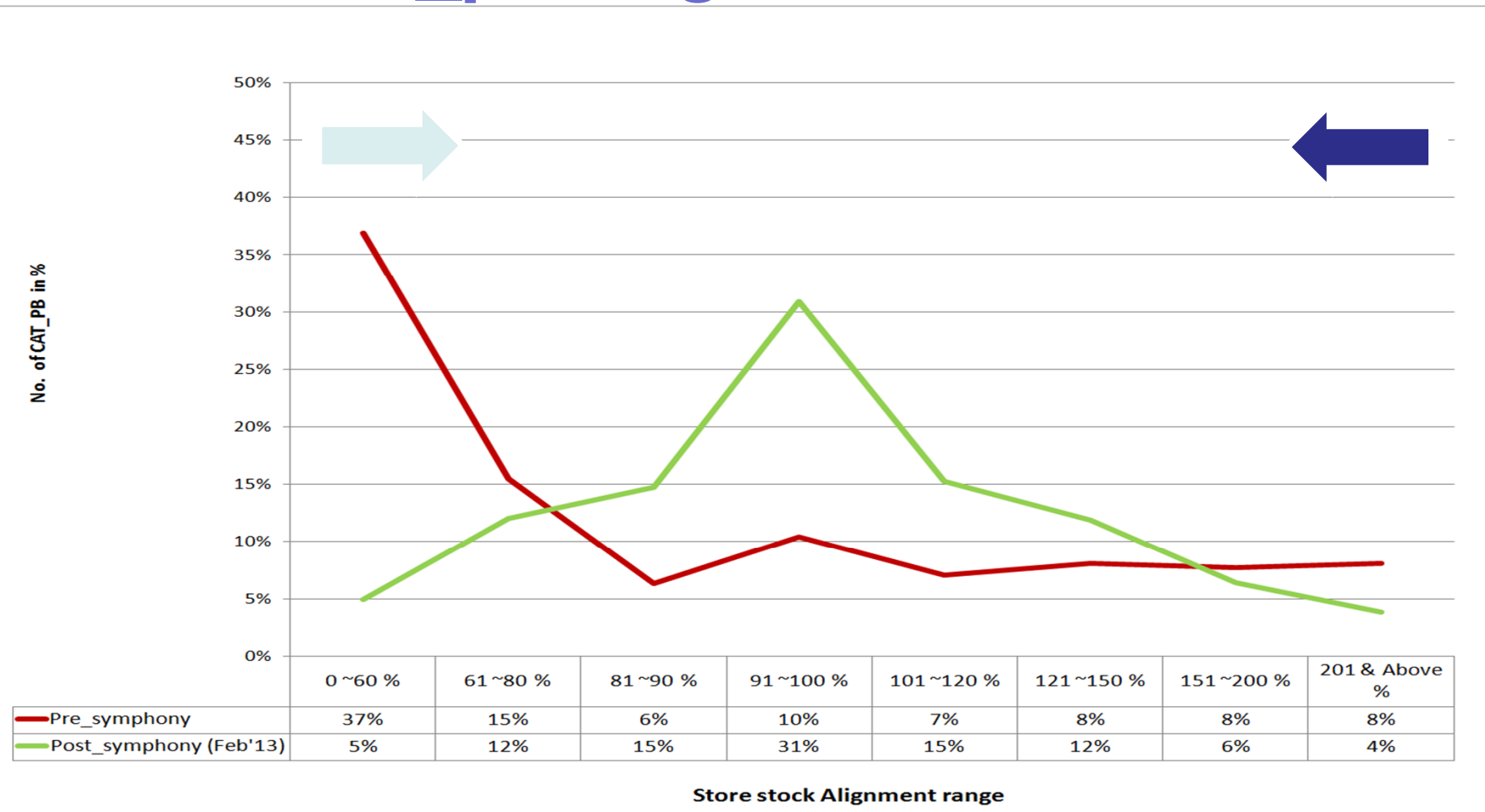


## Summary – Inventory & Alignment

<p><b>Store Inventory</b> ↓</p>	And	<p><b>Backbone Inventory</b> ↓</p>	While	<p><b>Store Norm Alignment</b> ↑</p>
<p><i>Plain:</i> 119 Kg inventory rationalization.</p>		<p><i>YTM Sep '12: 292 Cr Rs below budget. 4% increase in backbone effectiveness</i></p>		<p><i>YTM Oct '12: Share of Cat-PB with stock alignment of 80%-120% has doubled.</i></p>
<p><i>Studded:</i> 55 Cr. reduction in norms</p>				<p><i>Range offering increase by 13%</i></p>

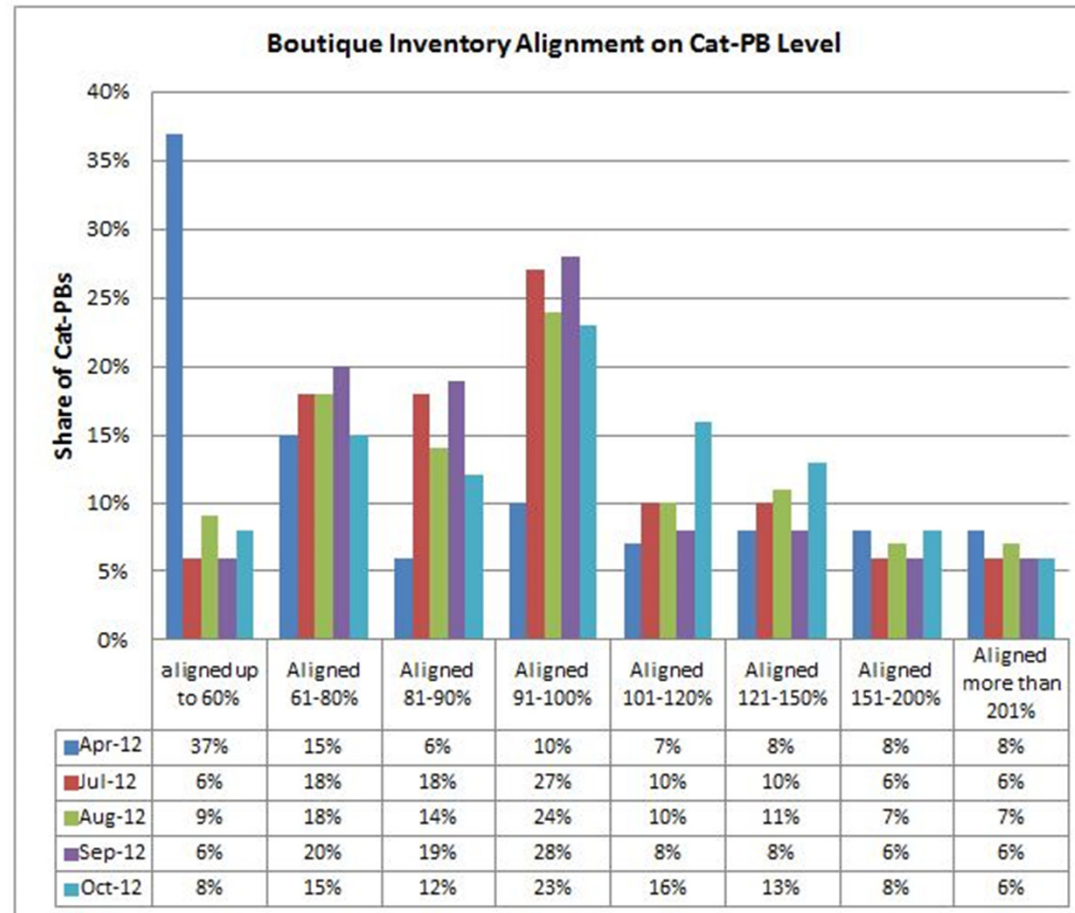


# Cat\_pb Alignment trend





## Store norm alignment – Symphony way



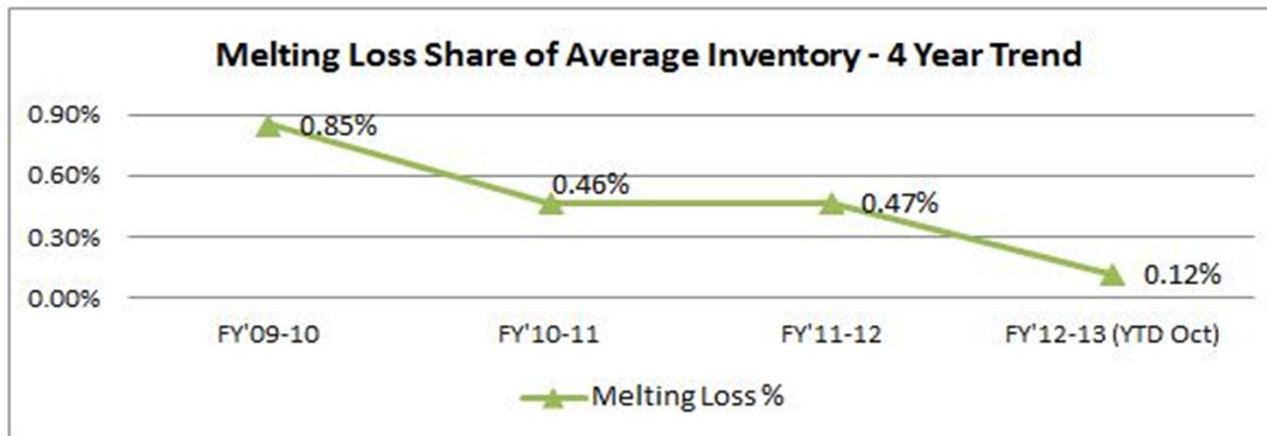
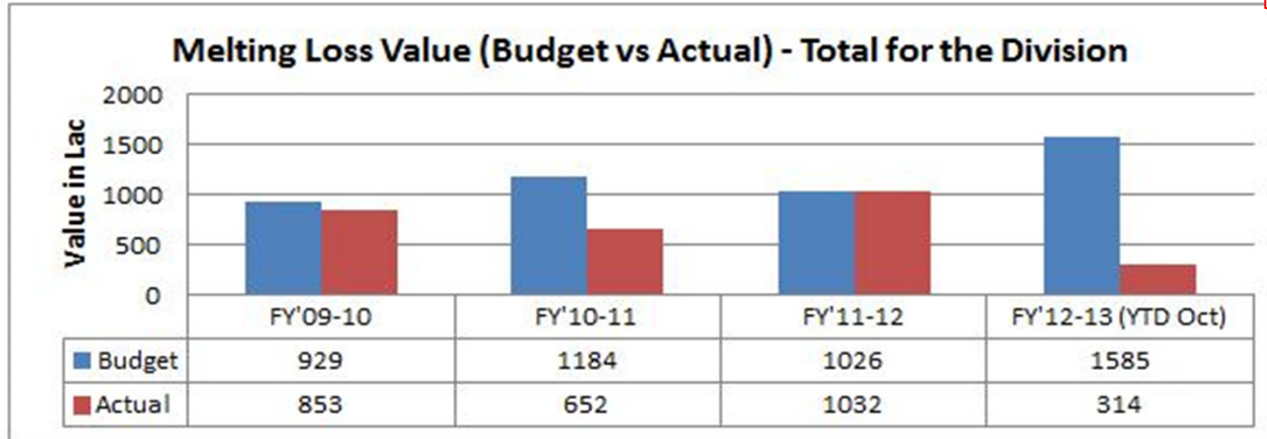
(\* ) Symphony has been rolled out to stores in April '12



# Melting loss & Age of Inventory



# Melting loss summary

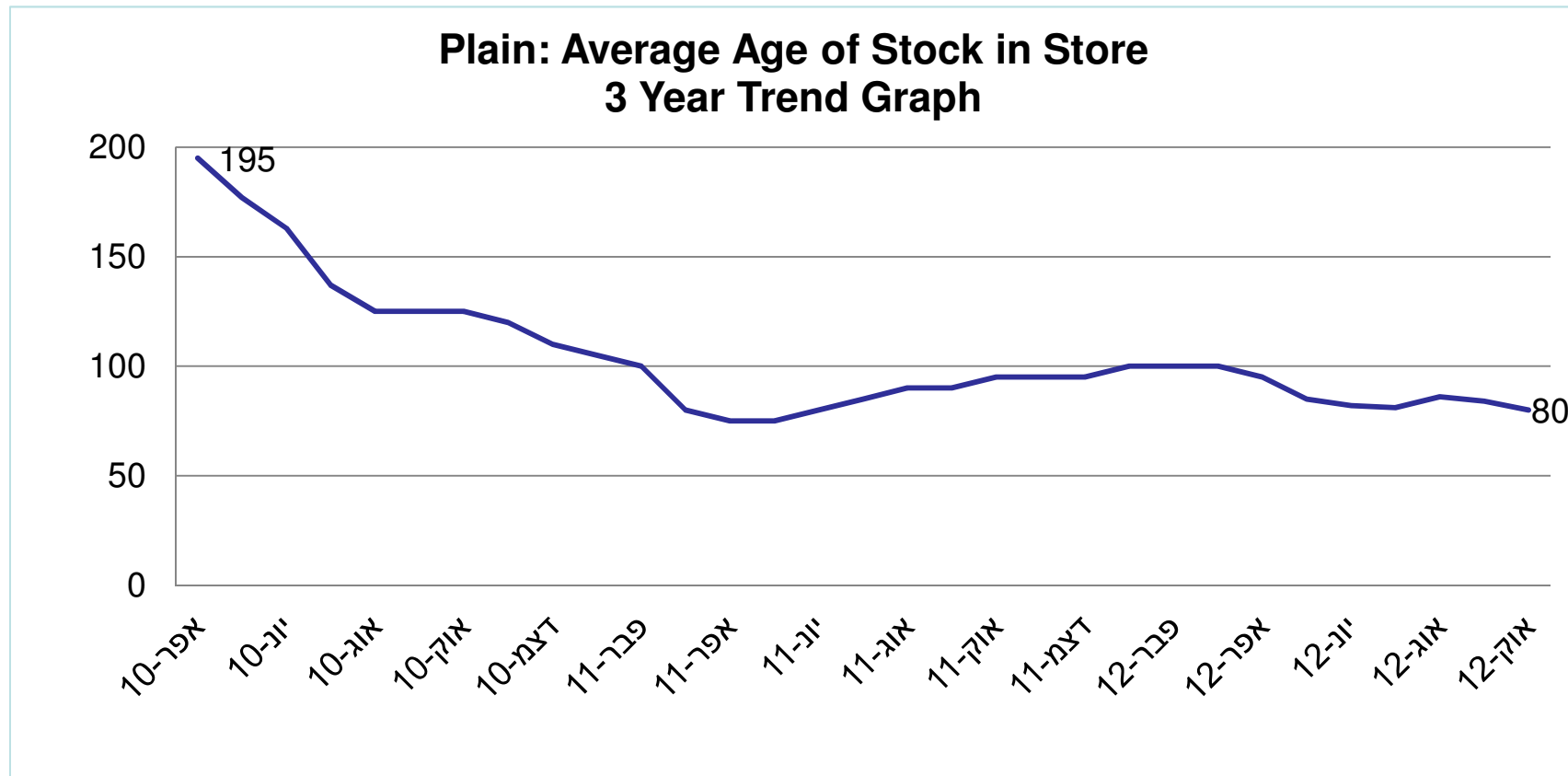


(\*) Melting Loss as a share of inventory has come down by half between FY09-10 to FY11-12 and FY11-12, which corresponds to saving of 10 Cr. Rs.





## Age of stock (Plain)



(\*) The TOC project implementation was officially launched on May 2010. Average Lot age on Apr 2010 was 195 days, on Oct 2012 it is 152 days. (for [Age of Studded](#) stock)



## Summary – Inventory & Alignment

Melting  
Loss



While

Age of  
Inventory



*FY 09-10 onwards:  
0.85% of inventory  
is down to 0.47%  
(corresponds to 10  
Cr Rs saving)*

*FY 09-10 to FY 12-13:  
Plain store age is  
down from 195 days to  
80 days (Current age  
from 195 to 152 days)*



# Newness, Best sellers & Tail



## Core – Success Rate in Plain cluster

	Total Introduced	Migrated to MTR	Share %
Core 1 (FY 11-12)	1200	461	38%
Core 2 (FY 12-13, 1 <sup>st</sup> half)	1637	391	24%



## Tail Liquidation - Plain

Month	Recall Expected	Received (Btq.response alignment)	Despatched (Re- distribution alignment)	Sale till Sep'12
April'12	71 Align %	61 86%	55 90%	31 56%
May'12	109 Align %	96 88%	88 92%	40 46%
Jun'12	78 Align %	70 90%	62 89%	39 62%
Jul'12	52 Align %	47 90%	39 83%	24 61%
Aug'12	50 Align %	43 87%	38 87%	14 38%
Sep'12	61 Align %	54 89%	42 77%	10 25%
<b>YTM</b>	<b>421</b>	<b>371</b>	<b>323</b>	<b>158</b>
<b>Align %</b>		<b>88%</b>	<b>87%</b>	<b>49%</b>

(\*) on average 49% of the inventory being rotated is getting sold within 6 month post rotation



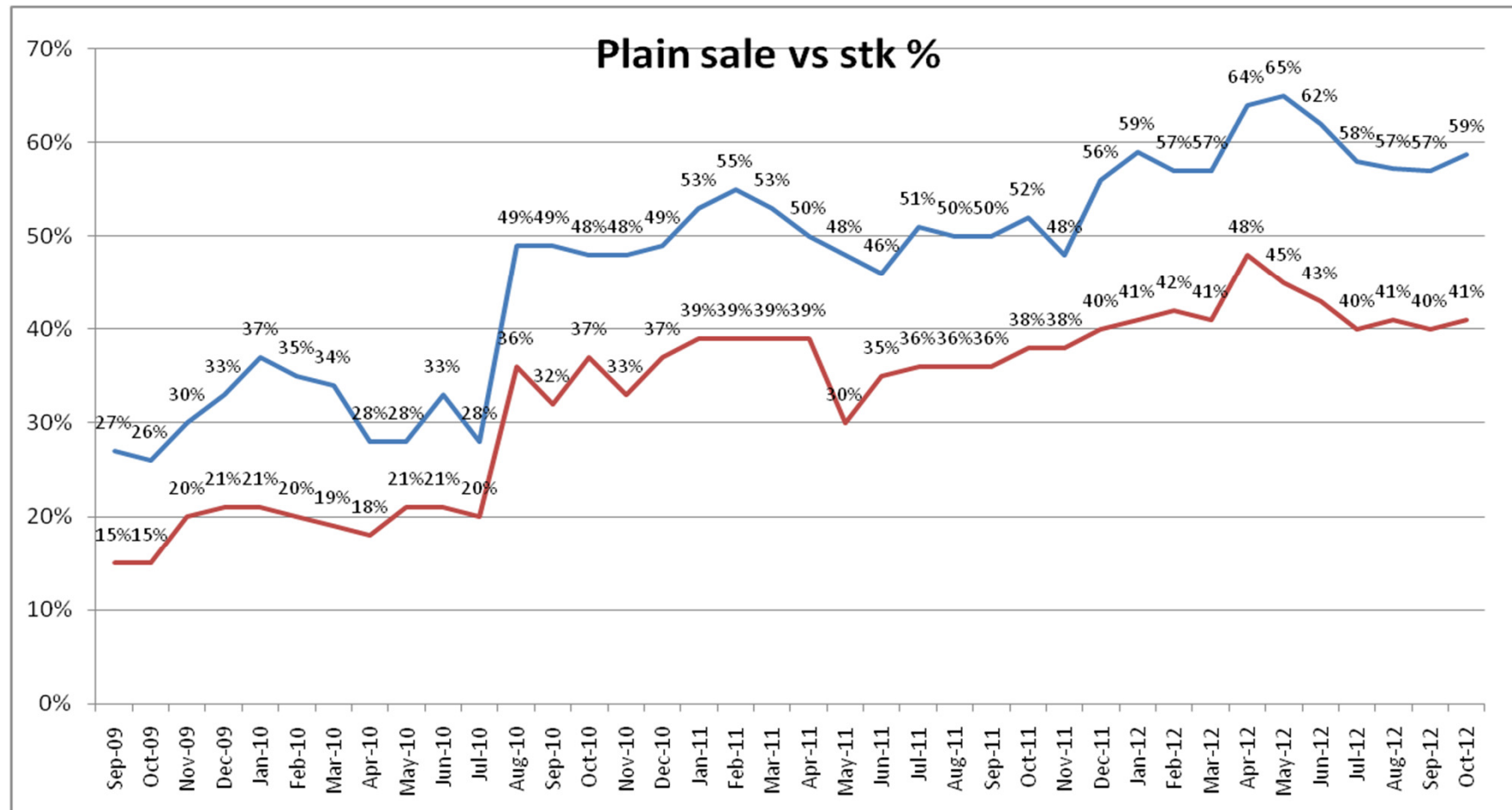
## Tail Liquidation - Studded

Month	Recall Expected	Received (Btq.response alignment)	Despatched (Re- distribution alignment)	Sale till Sep'12
April'12	1273 Align %	1087 85%	912 88%	310 <b>34%</b>
May'12	2239 Align %	2059 92%	1582 87%	654 <b>41%</b>
Jun'12	6392 Align %	5749 90%	5161 90%	3439 <b>67%</b>
Jul'12	2354 Align %	1831 78%	1537 84%	472 <b>31%</b>
Aug'12	2857 Align %	2483 87%	1698 68%	209 <b>12%</b>
Sep'12	2957 Align %	2553 86%	1929 76%	225 <b>12%</b>
<b>YTM</b>	<b>18071</b>	<b>15761</b>	<b>12818</b>	<b>5308</b>
<b>Align %</b>		<b>87%</b>	<b>81%</b>	<b>41%</b>

(\*) on average 41% of the inventory being rotated is getting sold within 6 month post rotation

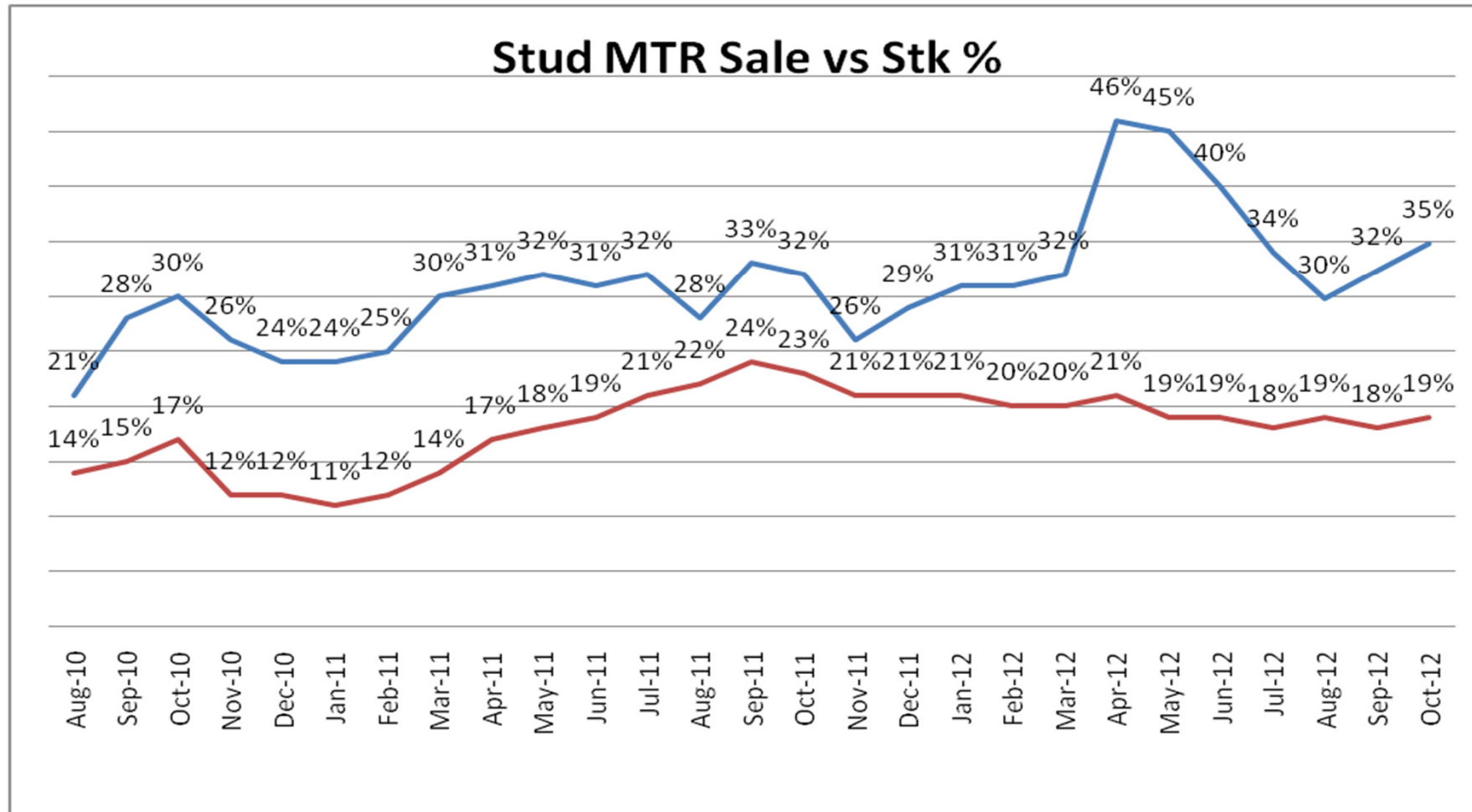


## MTR – Plain Best Sellers Sale vs Stock share



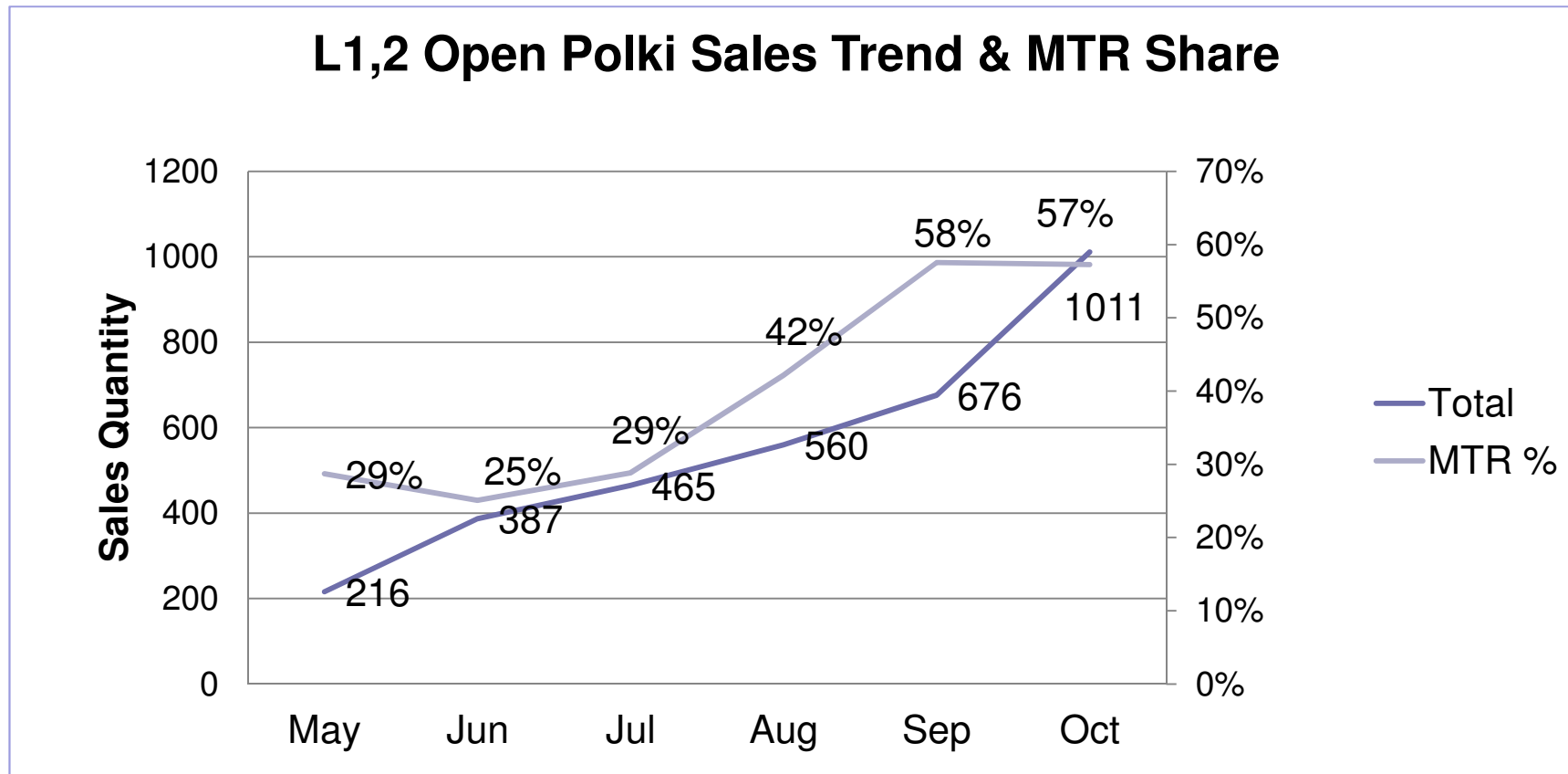


MTR – Studded Best Sellers Sale vs Stock share





## MTR – Supporting slow categories



(\* ) MTR buildup for the category has started in May 12

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**6-7 April, 2013, Pune, India**



# TOC BACKBONE



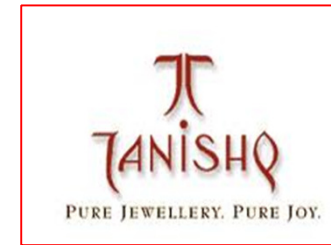
## TOC – Backbone implementation

- Objective

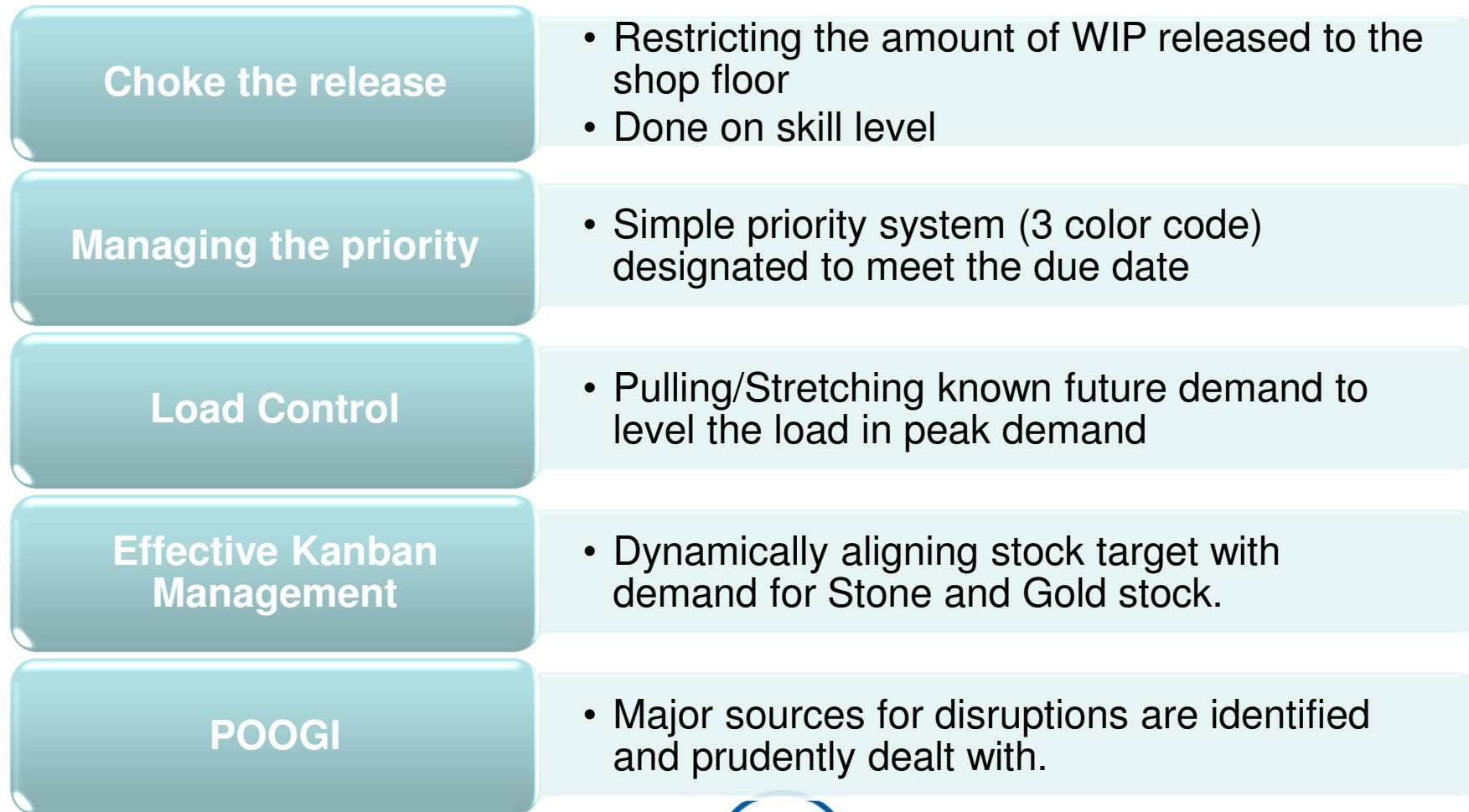
Align production to Sales by Reducing Lead Time and Inventory.

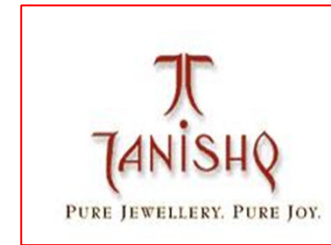
- Key measures:

- Inventory ↓
- DDP ↑ (Availability ↑)
- Lead Time ↓



# TOC backbone Process





## Expected benefit of implementation

- Responsiveness and Reliability:
  - Faster response time to market. (Align to sales)
    - Increase DDP to 90%
  - Reducing lead time.(Both I/H and J/W)
    - Plain LT reduction by 20 % ( present 14 days to 11 days)
    - Studded LT reduction by 40 % (present 21 days to 13 days)

- Inventory Reduction Benefits: 100 cr

	Earlier	Target	Reduction %	Reduction in Inventory
Stone RM	70 Cr	30 Cr	60%	40 Cr
RM(Gold) + WIP	360 Cr	300 Cr	15%	60 Cr



# TOC – Backbone road map 2013 - 14



**TOC Objective: Align to Sales by Reducing lead time and Inventory**

Sr. No	Dept.	Key Objectives	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Plain	TOC rollout to all Plain vendors	█	█	█	█	█	█	█					
2	Plain	Stabilize performance across all TOC vendors				█	█	█	█	█	█	█	█	█
3	Studded	Stabilize TOC in all Studded Inhouse manufacturing plants (including jobwork vendors) and rollout to outright vendors	█	█	█					█	█	█		
4	ISCM	Establish key performance measurements and incentive schemes	█											
		DDP (end to end)		█										
		Cat-PB level stock alignment		█										
		Inventory holding days		█										
		% age of Blacks		█										
		Implement Incentive schemes linked to above measurements	█	█	█									
5	SCM	Establish Demand driven DBM for Gold		█	█	█								
6	SCM/ IT	Symphony rollout to all production source: Seamless intregation of Symphony assortment and production modules linking front end & backend production (including vendor)		█	█	█				█	█	█		
7	ISCM/IT	Implement visual management system in all production sources				█	█	█	█	█	█	█	█	
8	Studded	Establish Demand driven DBM for stones (diamond/Color stones)	█	█										
9	SCM	Training and Education for all key stakeholders(employees, vendors)	█	█			█				█			
10	Plain/Studded	Establish the BOM based safety stock DBM at all vendors and factory								█	█	█	█	
11	SCM	Establish KPI and POOGI for front end		█	█									
12	SCM	X to Y replenishment model for high value products (all sub clusters)								█	█	█		
13	SCM	Stabilize MTR DBM (season & non season period)				█	█	█						
14	SCM/ IT	Stabilize symphony indenting tool (POOGI)	█	█	█	█	█	█	█	█	█	█	█	
15	ISCM	Measuring Key Benefits from TOC Program												
		Inventory reduction - Stone											50% reduction of target	
		Inventory reduction -RM+WIP												50% reduction of target
		Category price point level alignment												100% of the target
		DDP- Plain								50% DDP		60% DDP		90% DDP
		DDP- Studded (Inhouse)								50% DDP		70% DDP		90% DDP
		DDP- Studded (Outright)								85% DDP		90% DDP		



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**Fifth International TOCPA Conference**

**6-7 April, 2013, Pune, India**



# WAY FORWARD



## Our Implementation Logic – Front end

**Build**

MTR

MTAR

Tail Rotation

Core

Universe

Rationalization

**Capitalize**

Norm Alignment &

Inventory

rationalization

Melting loss sav

**Sustain**

Symphony

KPI

KPI is the tool for the ABM/RBM to continue and align Norms and Range in stores for ongoing improvement of *sales, margins and inventory turns*



## Our Implementation Logic – Back bone

### Build

Choke the Release

Managing Priorities

Load Control

Removing  
bottlenecks

DBM

### Capitalize

Cutting down Lead

Time & WIP

Improving DDP

### Sustain

Symphony

Measurements &

Incentives

POOGI