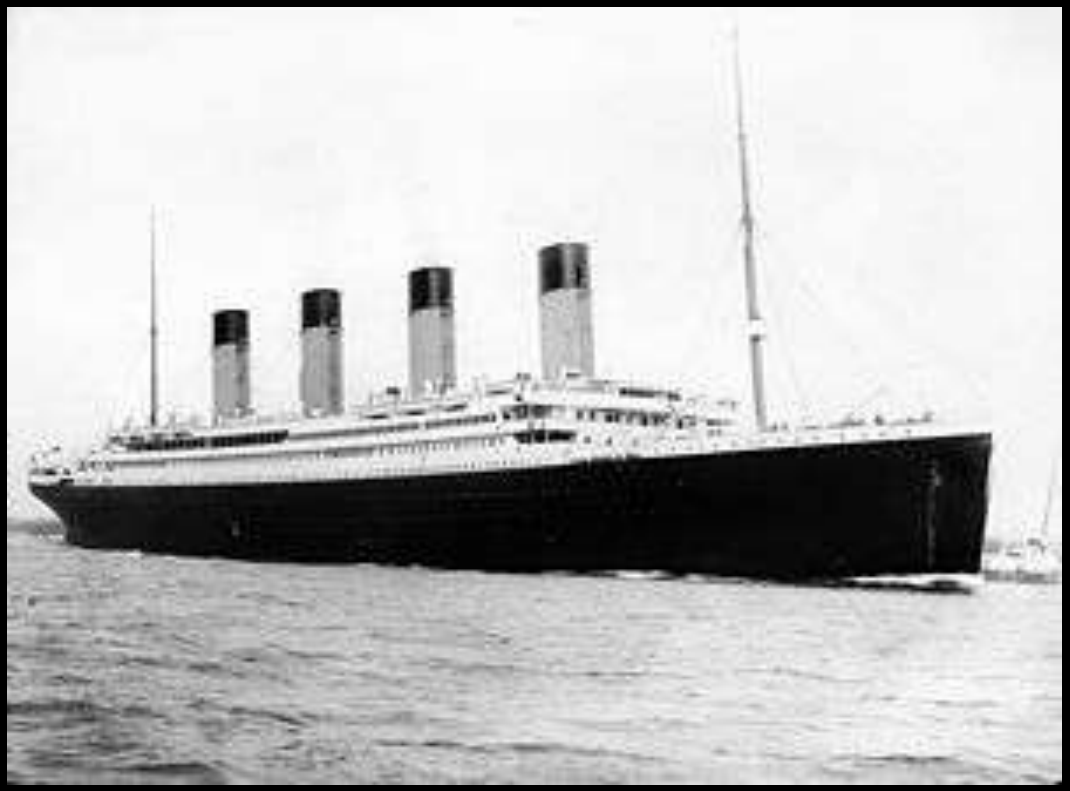
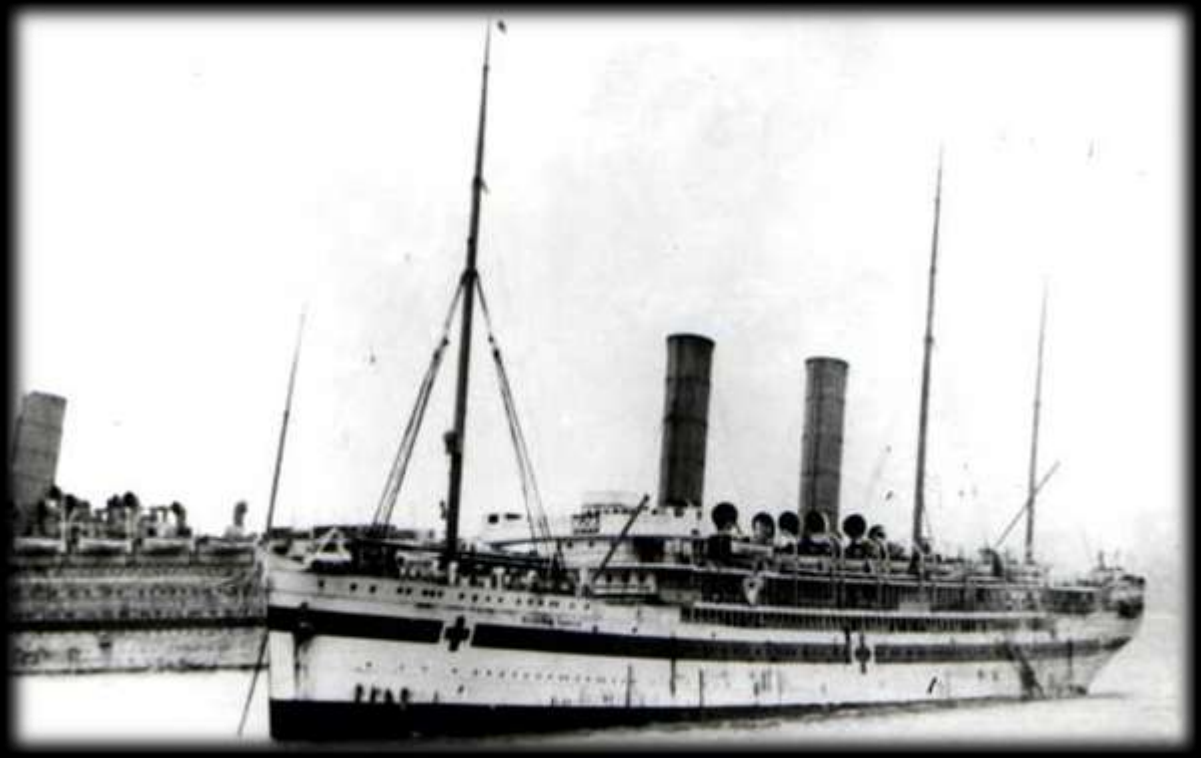
THE TITANIC



'Unsinkable' ,'Most luxurious' .....



KILDONAN CASTLE

The Mighty British Empire – set sail to conquer the World, but .....

How to Stay Afloat?

Nurturing Quality through Innovation

Shailendra Singh
GM,Materials Management Division,
Maruti Suzuki India Ltd

World's top Brands

	2000	2005	2009	2013
1	Coca-Cola	Coca-Cola	Coca-Cola	Apple
2	Microsoft	Microsoft	IBM	Microsoft
3	IBM	IBM	Microsoft	Coca-Cola
4	intel	GE	GE	Google
5	NOKIA	intel	NOKIA	IBM
6	GE	Disney	McDonald's	intel
7	Ford	McDonald's	Google	McDonald's
8	Disney	NOKIA	TOYOTA	GE
9	McDonald's	TOYOTA	intel	BMW
10	AT&T	Marlboro	Disney	cisco

World's best small car - Forever ?

Maruti Alto Remains World's Highest Selling Small Car

on JANUARY 27, 2012

in MARUTI ALTO

Like 4

Discuss in Forums

4

Share

0

+1

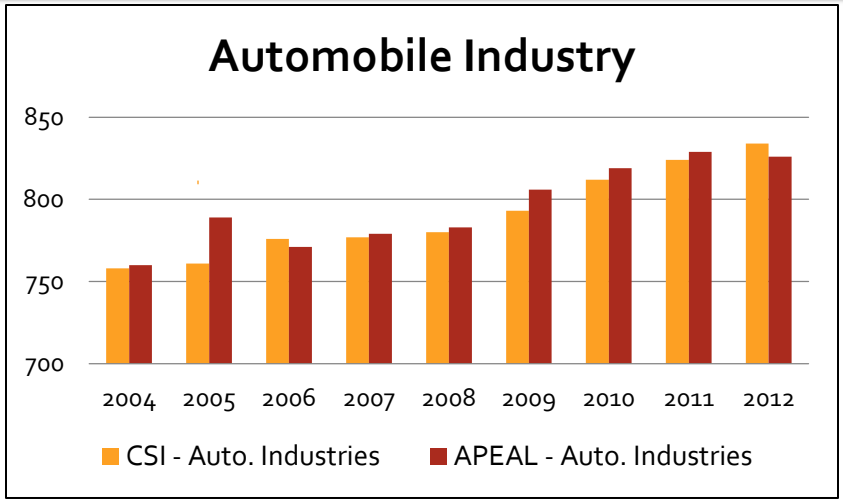
3

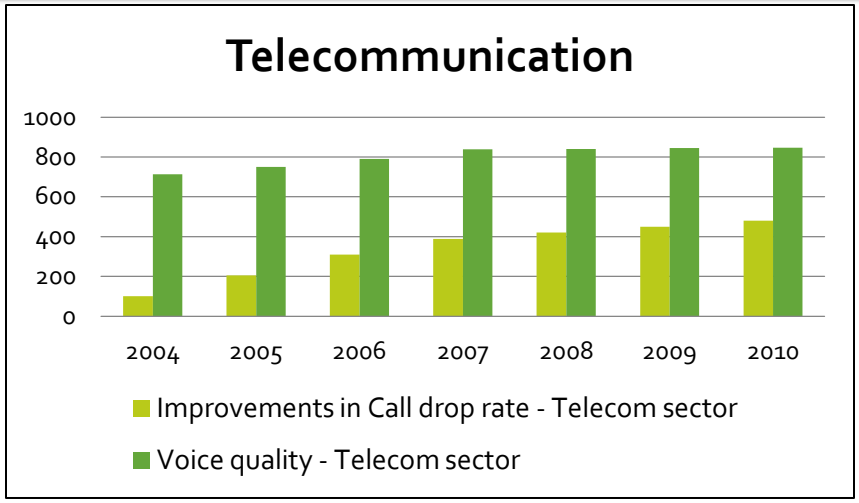
Tweet

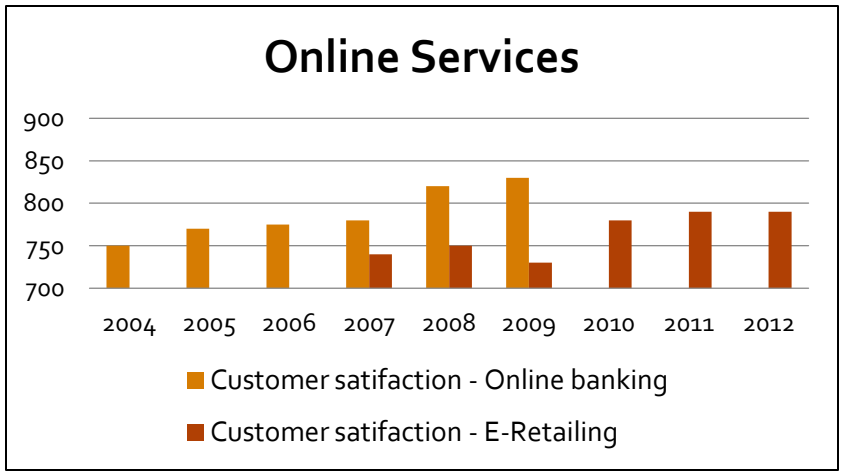
The Maruti Suzuki Alto which happens to be India's largest selling car has gone global by emerging as the largest selling small car in the world in terms of volumes. This is the 2nd consecutive year the car has outnumbered the total sales of any other small car all over the world. The Volkswagen Golf took the second spot and the Fiat Uno trailing behind in third place. Maruti Suzuki sold over 3,10,000 units of the Alto in the year 2011 while the Golf managed the highest number, 2,93,454 units in Brazil. The Fiat Uno also sold the highest number in Brazil at 2,73,537 units while Volkswagen sold 2,58,059 units of Golf in its home country. Following this is the Suzuki WagonR selling 1,60,439 units in its home country, Japan and the Chery QQ selling 1,50,769 units in China.

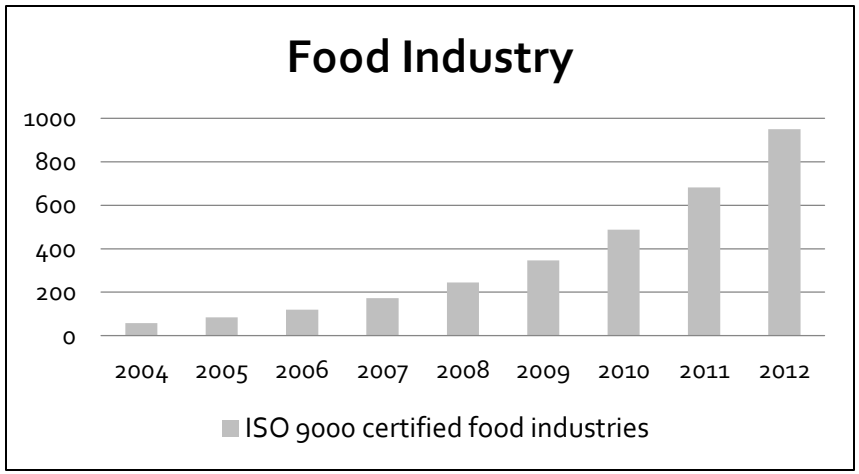
What do they have , that others don't?

Growing Customer Expectations & Quality









All values indexed; Source: CSI & APEAL – JD Power & Associates; Telecom sector – TRAI ; Online Services – www.foresee.com dtd 12-May-13, Food Industry – Research paper on Processed Food Quality control in Japan by Yoshihisa Onishi, Ph.D (Extrapolated)

Sustained Quality – Continuously exceeding expectations of Customers

Quality - Perspective

Western Approach

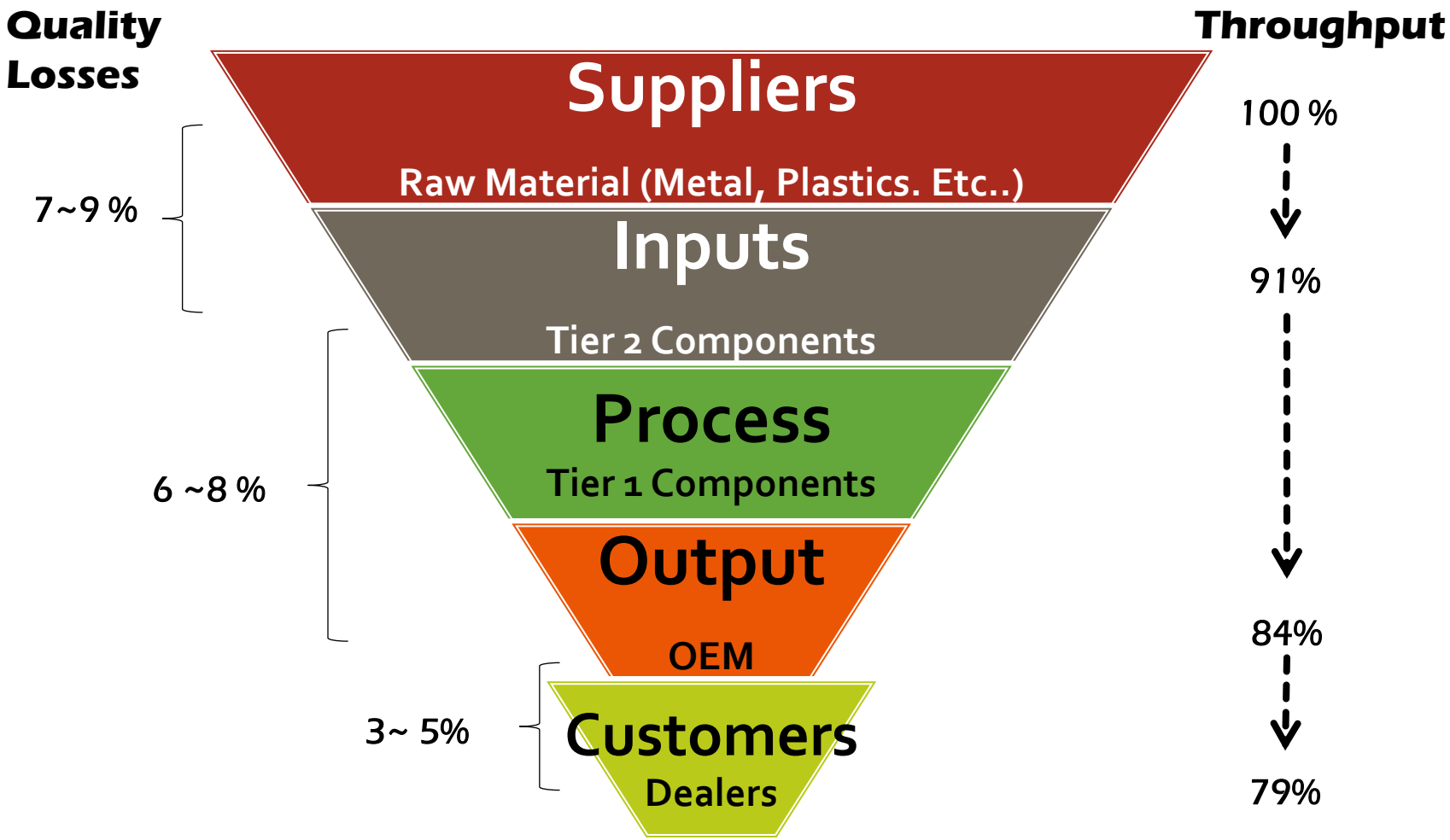
Filteration

- Output < Input
- Less efficient
- Temporary improvements

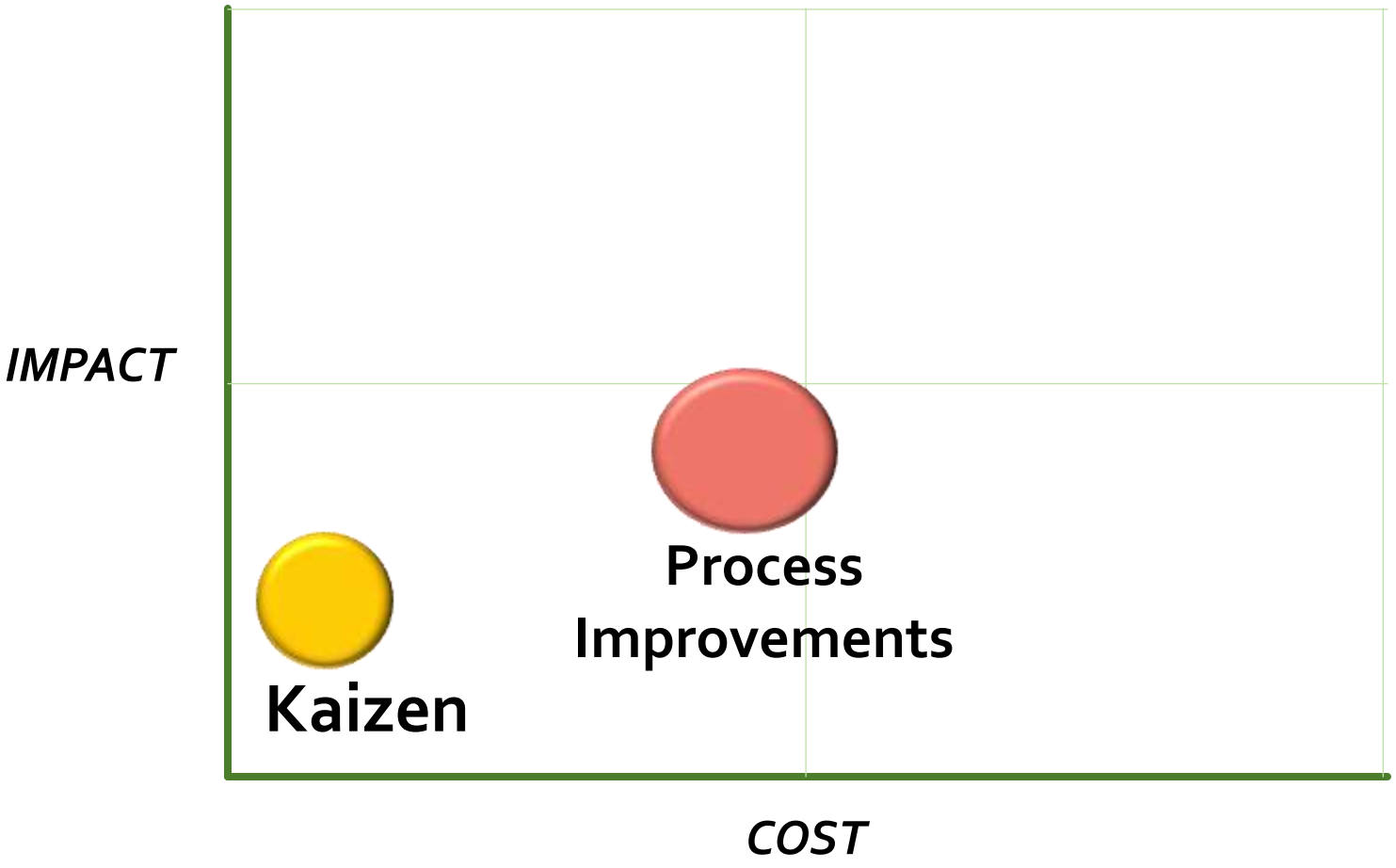
EasternApproach

Quality at Source

Value chain losses



What are our options?



Quality by Process Improvements

Pika Pika system for model specific component selection

Electronic Torquing Checks

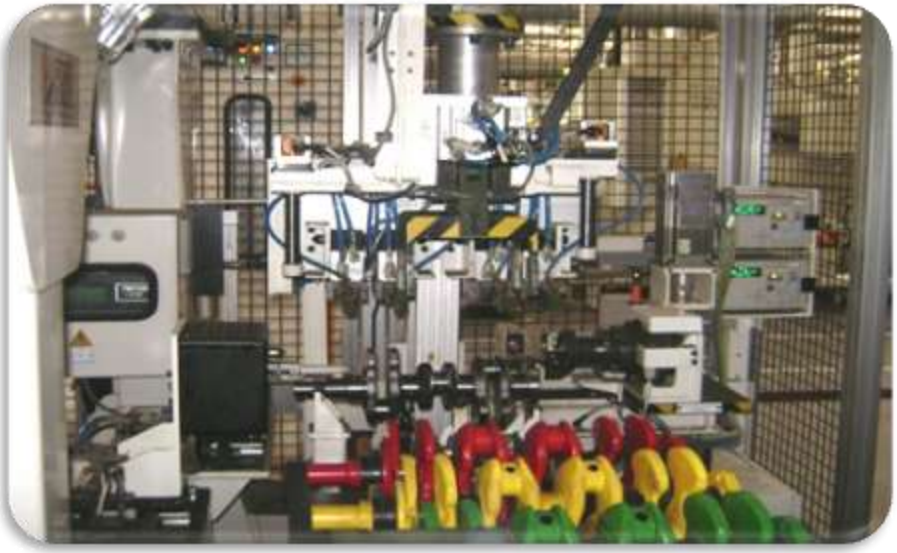
Visual Control for similar looking parts

Auto-Torque regulator to prevent over tightening

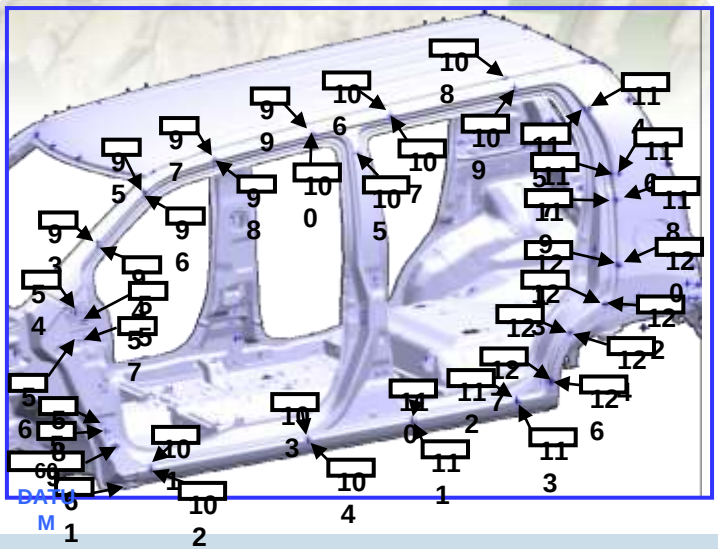
Bolt tightening training

Hand Movement coordination

Quality by Process Improvements



Statistical Process Quality Control for Critical processes



Panel Checker for body accuracy

Quality by Process Improvements

ANDON System

Any stoppage on line effects disturbs the natural rhythm of operator

Call prompted & display on ANDON board

Call registered in the shop

ANDON analysis call / pause

Is it enough?

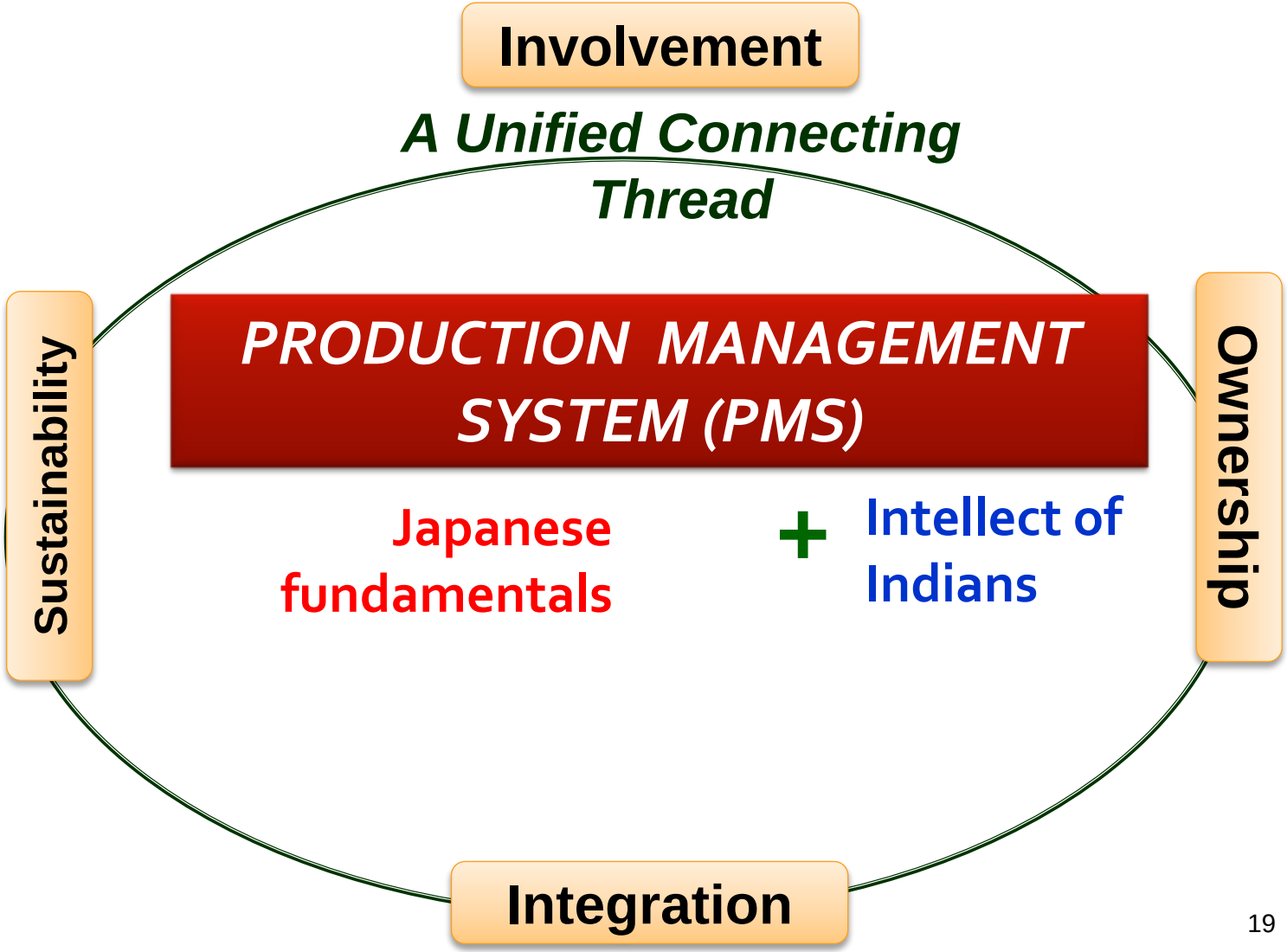
What do people normally do?

Banyan tree

Spill the beans

The PMS Approach

PMS (Production Management System)



PMS for Quality in the value chain

Implementing PMS-

From Company level to Functional level

Overall Guidelines from COO

Percolation down the level

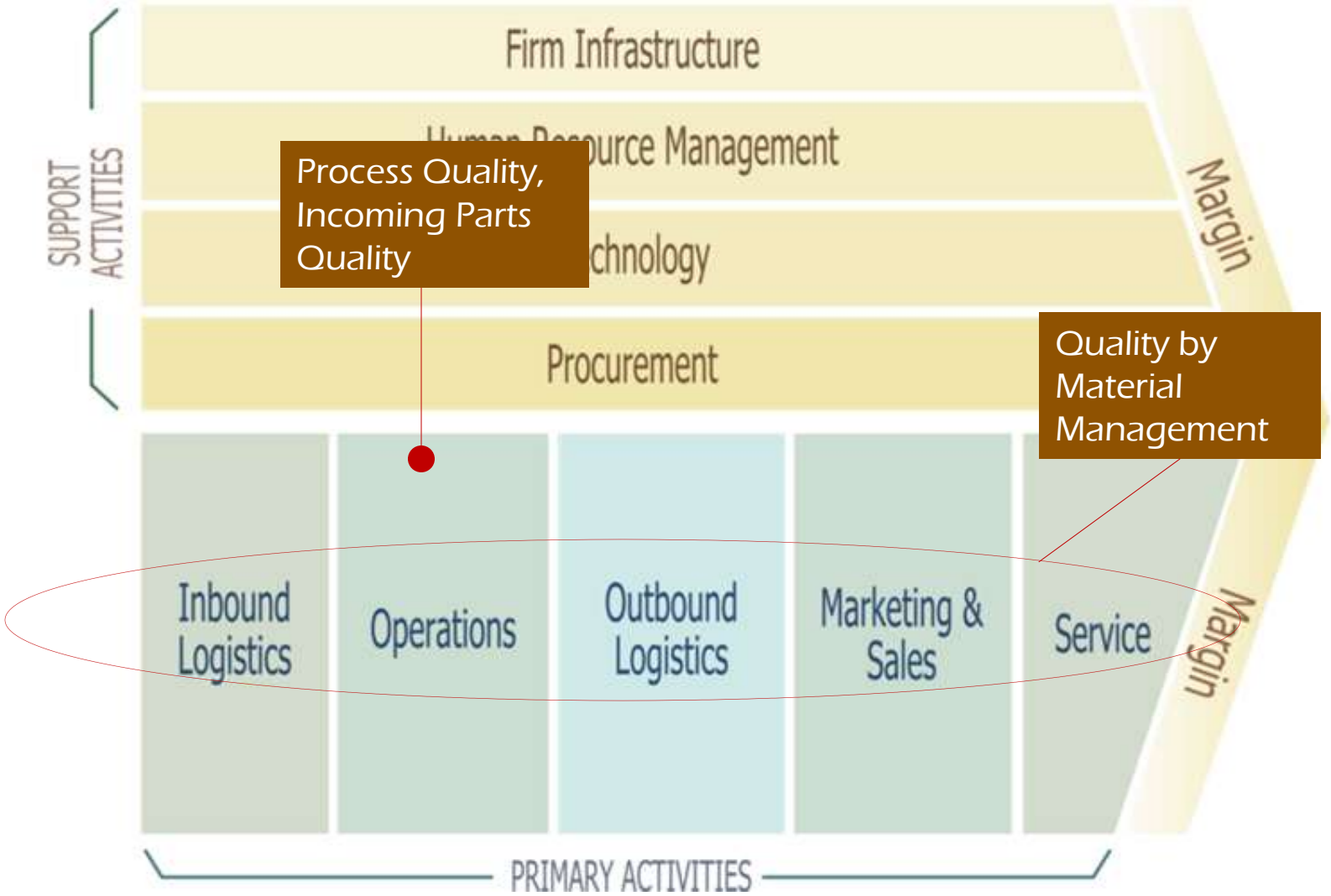
Idea generation – PMS Brainstorming sessions

Idea generation – PMS Brainstorming sessions

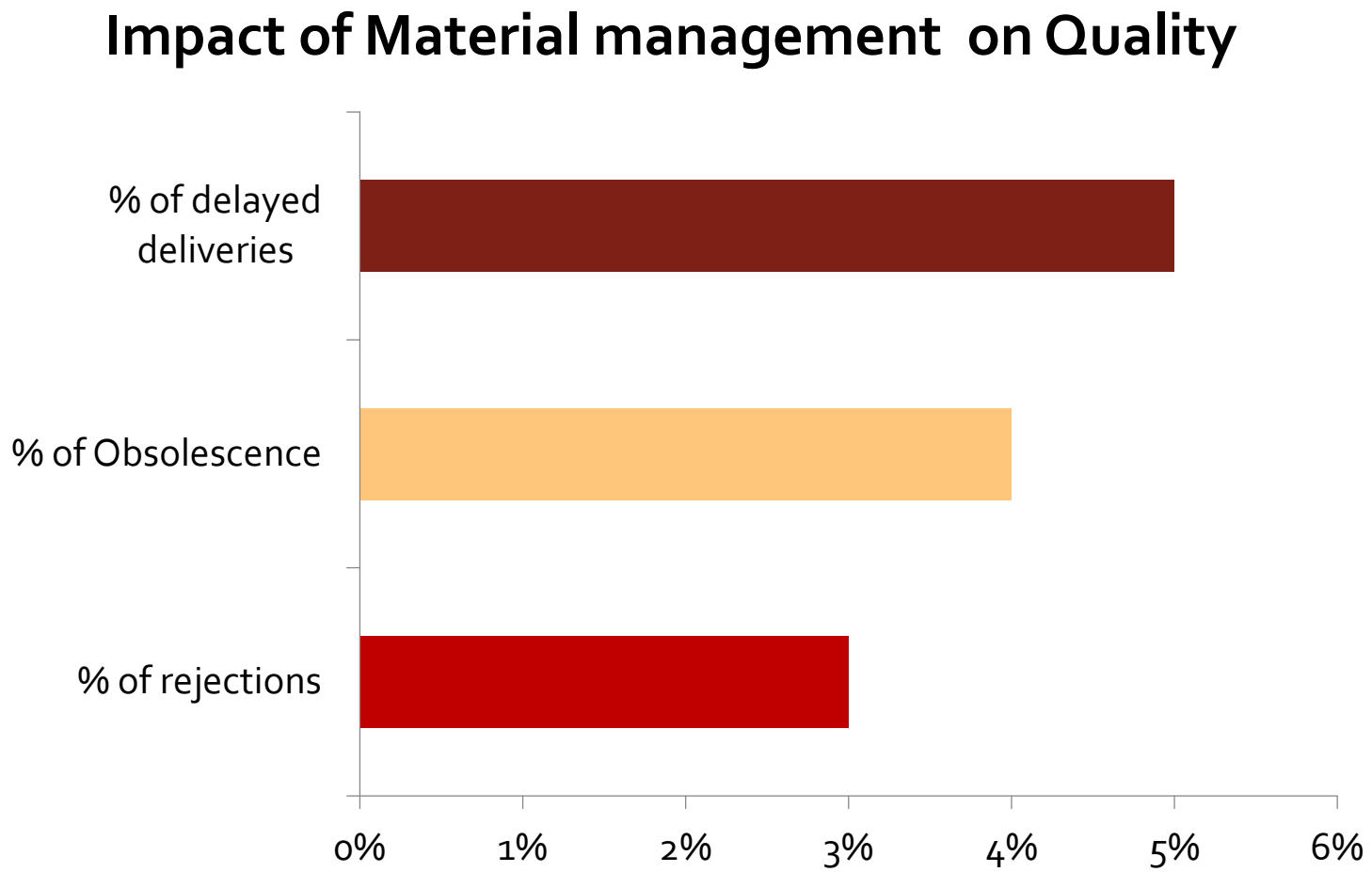
Idea presentation

Idea evaluation

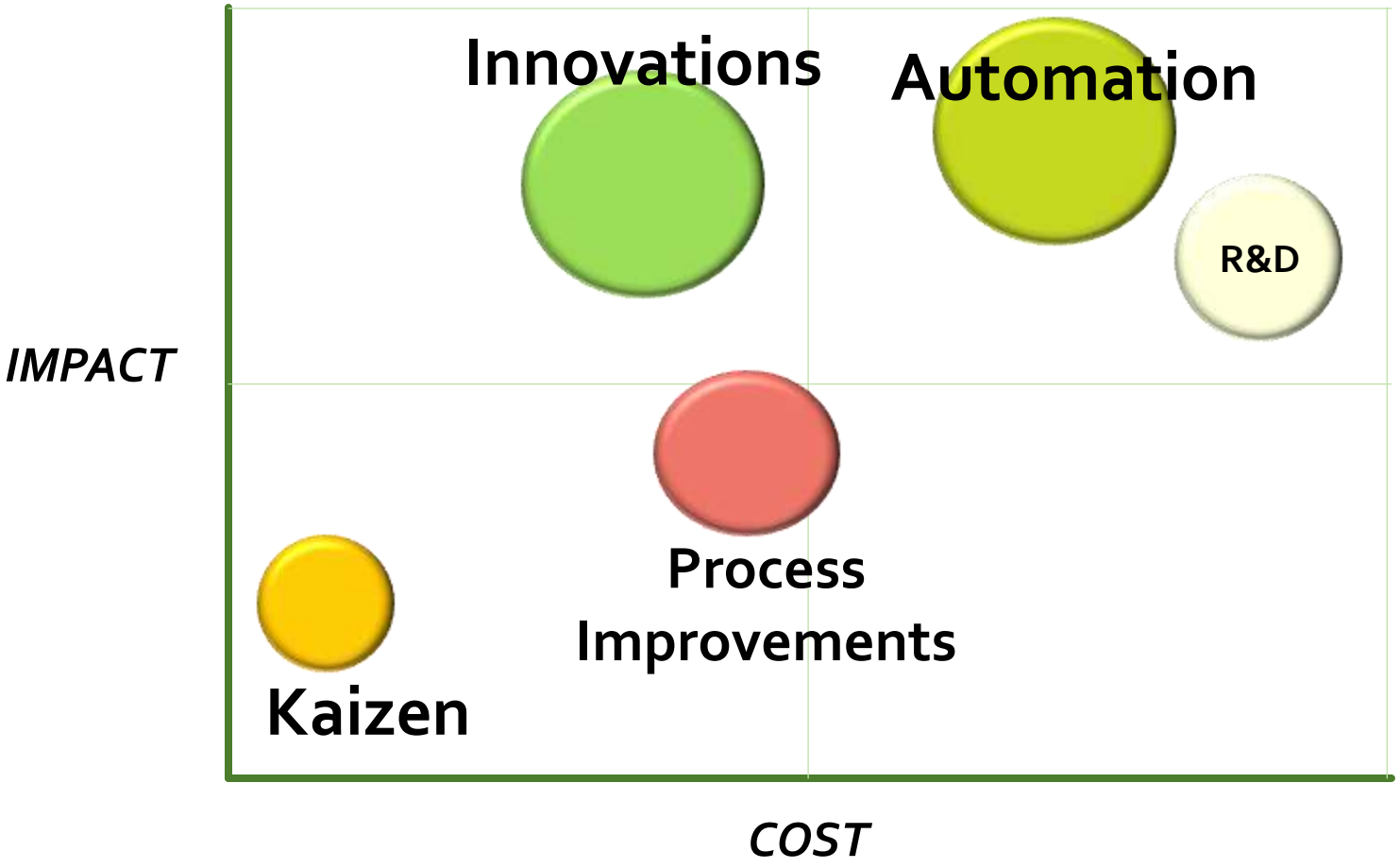
Improving Quality in the Value Chain



Improving Quality in Material Flow



What are our options?



How do we do it systematically?

Engineering 'Innovations' in Material Management

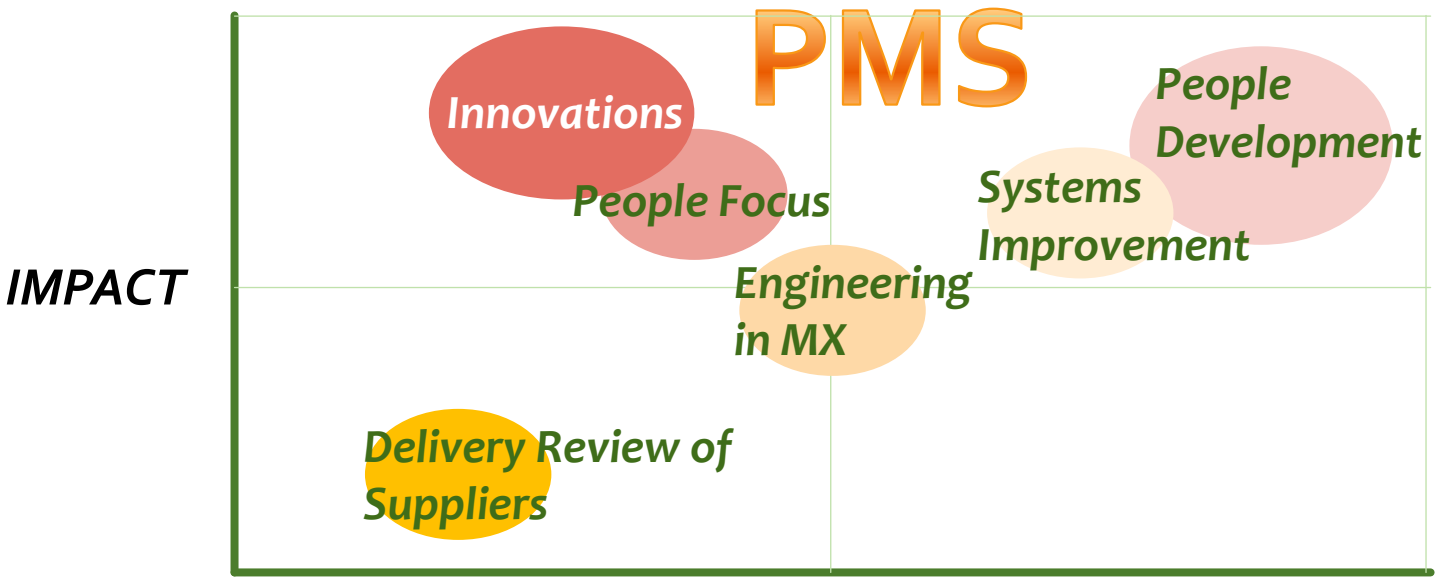
PMS

Overcoming Human Limitations

Verticalisation

Improving Parts traceability

Implementing PMS-
From Company level to Functional level



Idea Implementation

COST

Cross Sharing

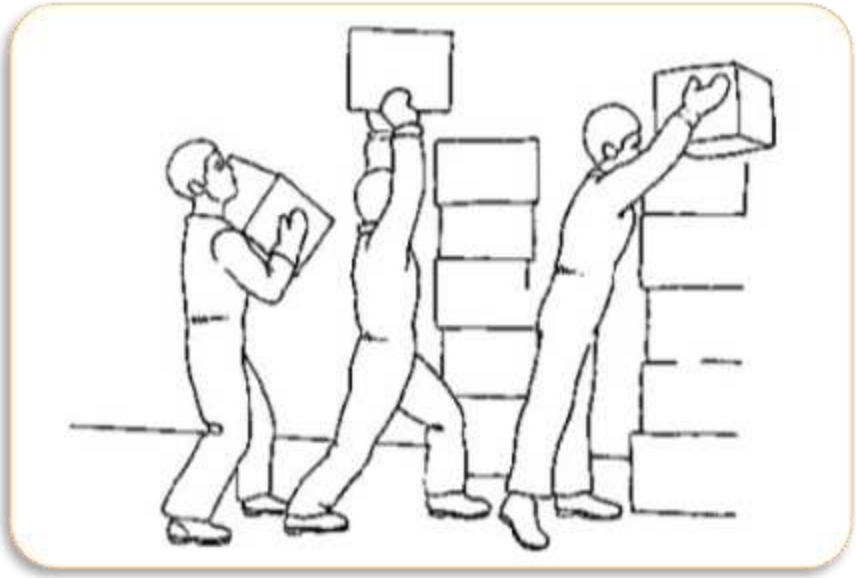
Company wide Recognition

Overcoming Human limitations

Pulley systems to minimize human effort

30% reduction in manual handling

Overcoming Human limitations



Pulley systems to minimize human effort

30% reduction in manual handling

Improving handling by minimizing Human effort

Direct from Truck

Telescopic racks for heavy bin unloading

-Elimination of Handling rejections

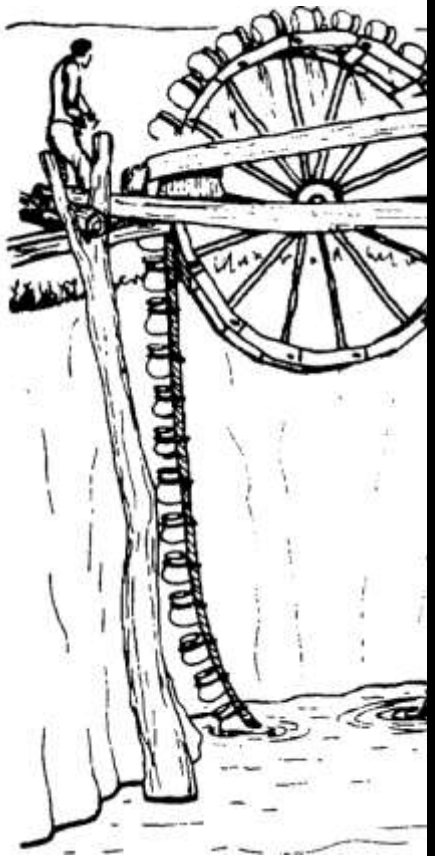
Improving handling by minimizing Human effort

Ergonomic friendly racks & trolleys

Reduce Human effort

Racks on Wheels *to avoid multiple handling of material , resulting in* ***improved throughput rate***

London –Eye ('Noria concept')



power

Vending Machines

Ver 1.0 : PLC based

Oct-12

Ver 2.0 : Energy free

Nov-12

ONLY the RIGHT material and ONLY the RIGHT Quantity

Ver 5.0 : Bank of Energy free Vending Machines

Dec-12

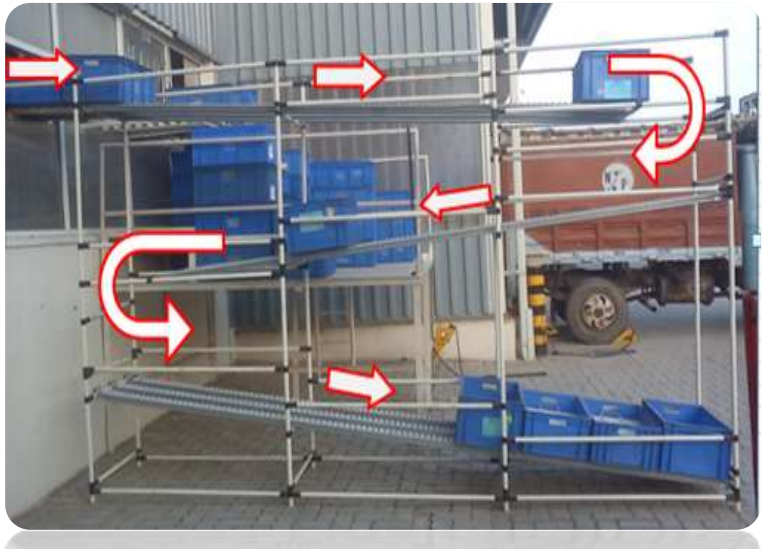
Nov-12

Ver 3.0 : Horizontal Parts Dispensers

Nov-12

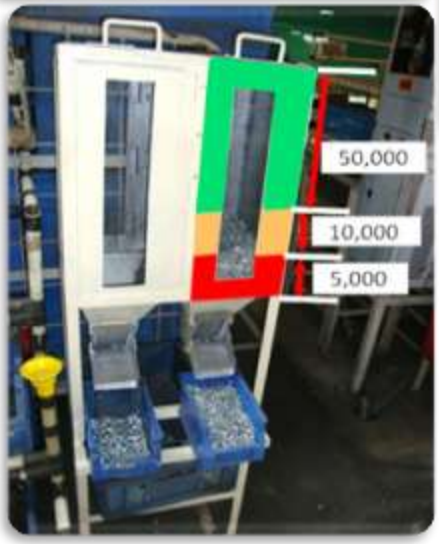
Ver 4.0 : Energy reduced

‘Zero’ Manual intervention systems



Tak-a-Tak systems for continuous transfer of material, utilising vertical space, with ‘0’ manual intervention

Ensuring "Zero" mix-up



Hopper systems to ensure Zero Mix-up of fasteners

Inventory reduction by Rs 1.5 cr

Automated Handling

Automated Storage & Retrieval System (ASRS) for Engine transfer & storage
"Zero Handling defects"

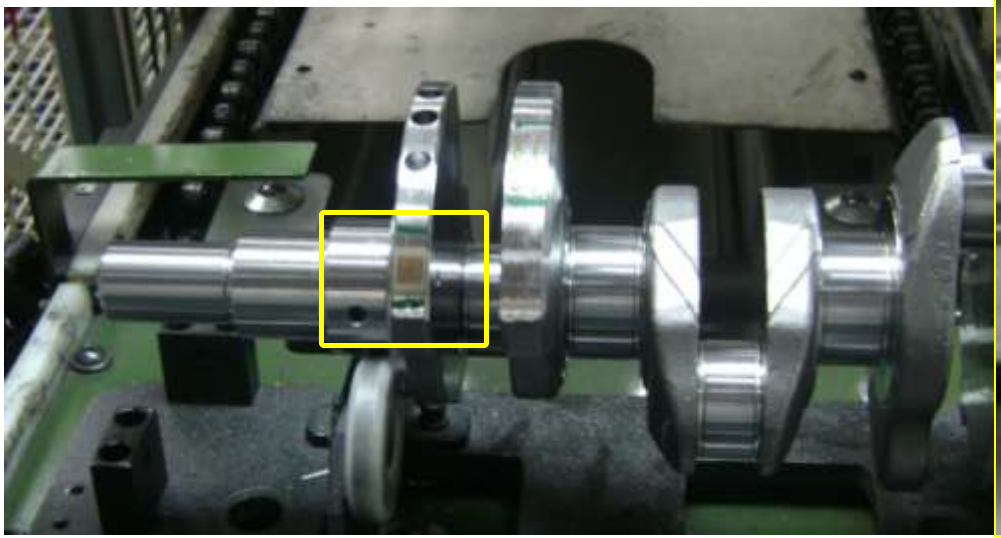
Automatic Guided Vehicles (AGV) for Door transfer
"Zero Handling Dents"

Overcoming Human limitations

Direct On Line (DOL) system for material handling

In-house designed & developed Automated Tire handling & storage

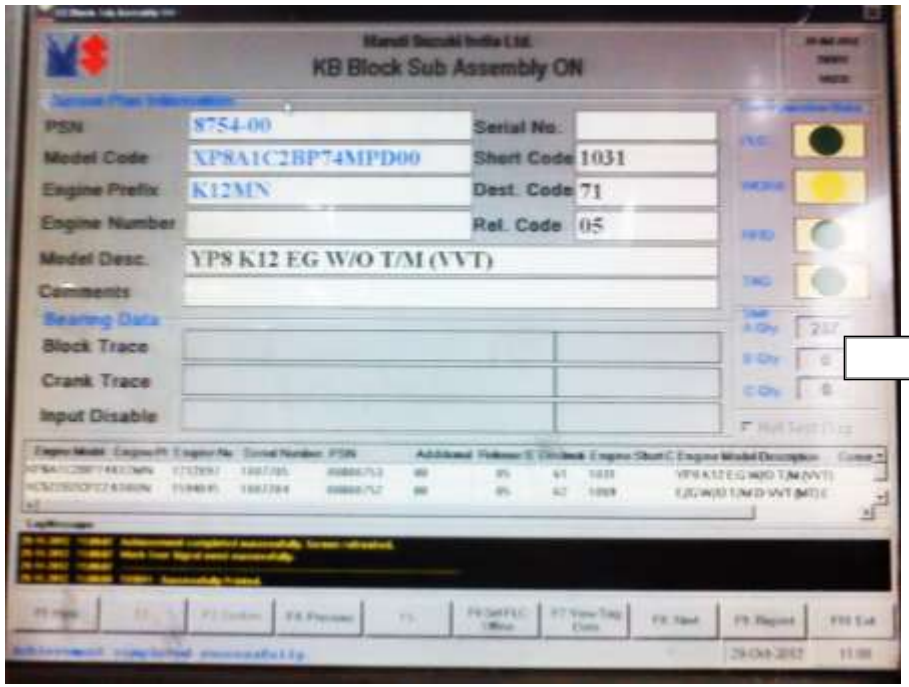
Improving Traceablility - Machined components



Laser-engraved data matrix on crankshaft having information on:

(1) date & shift of mfg,
(2) grading of pins & journals
(3) component number,
(4) shop reference no.

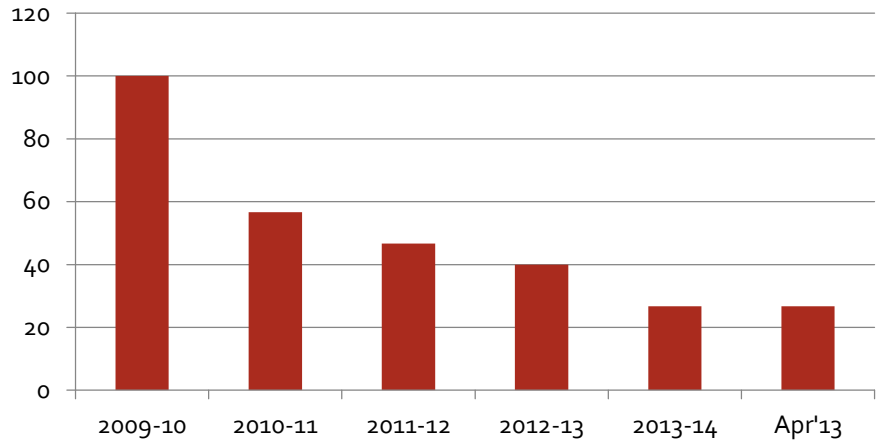
Improving Traceability - Critical processes



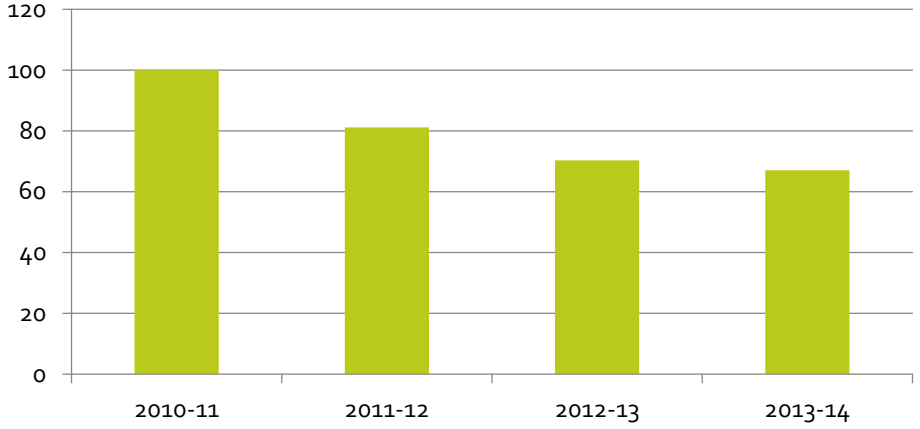
..the impact

Quality improvement trends

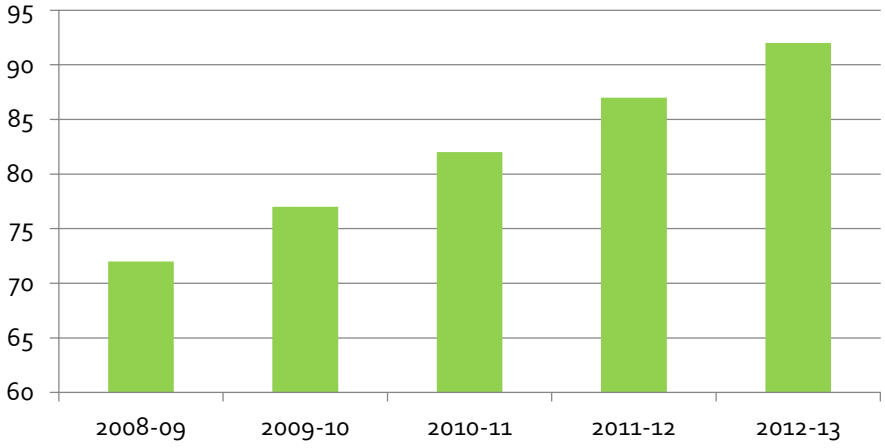
Inhouse Warranty



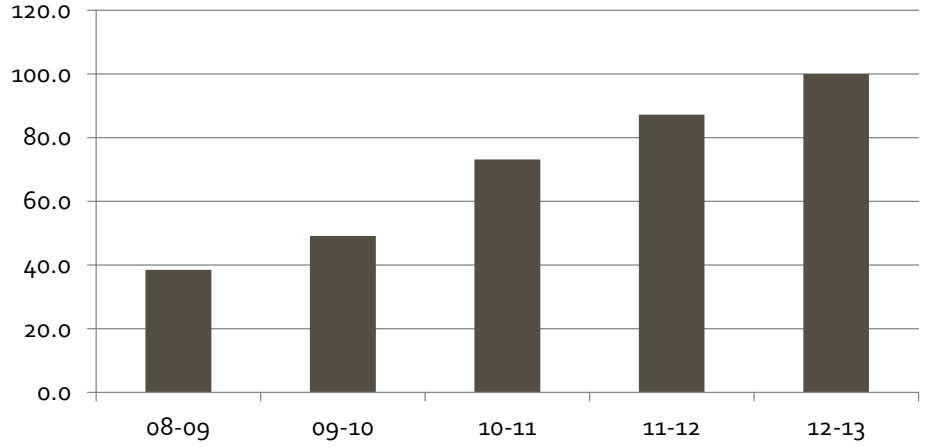
Inhouse Rejection



Direct Pass



GCA index



Awards and recognitions

No. 1

In the JD Power Customer Satisfaction Index for the 12th consecutive year

4 out of 5

Top selling passenger cars
1st Alto, 2nd Swift, 3rd WagonR,
5th DZire

Swift

CNBC TV-18 Compact Car of the Year
NDTV CNB Premium Hatch back of the year

IQS & APEAL

Swift ,Dzire, SX4 and Estilo among top 3 in respective categories

Certifications

ISO 9001:2008
ISO 14001

Thank You