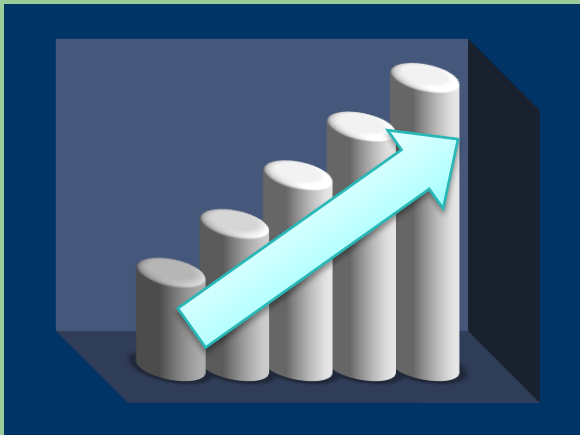
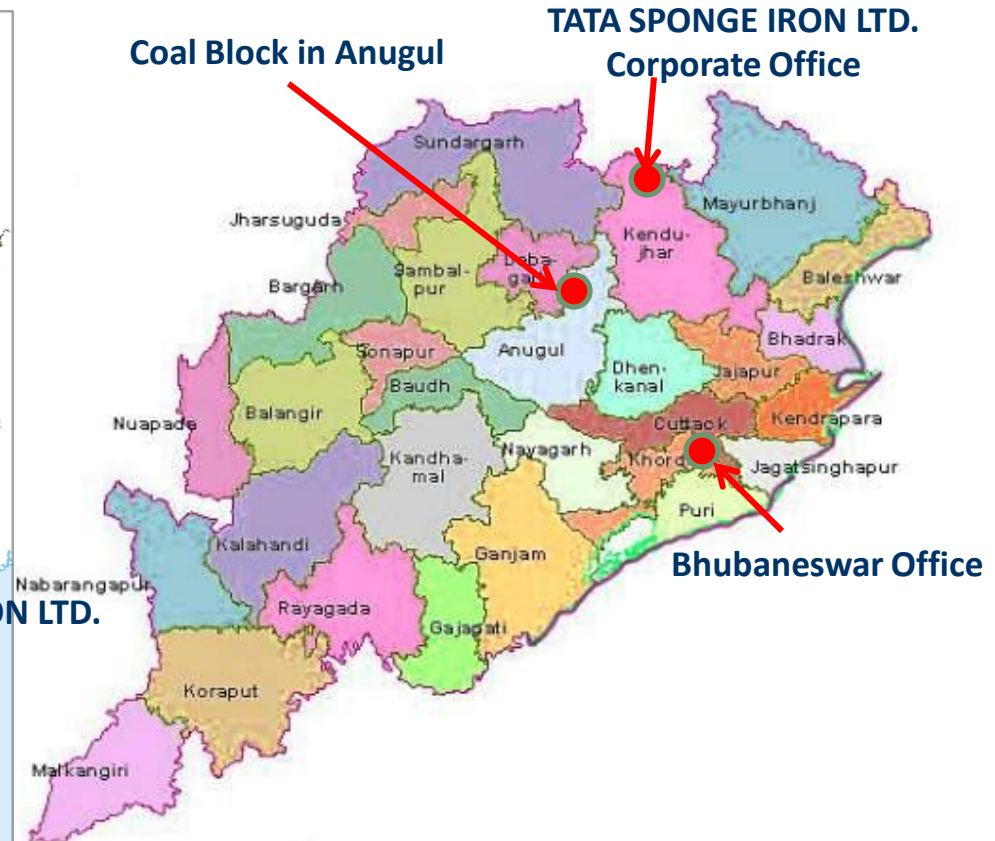


Policy Deployment - KMI-KPI-KAI



J. P. Mishra
TATA Sponge

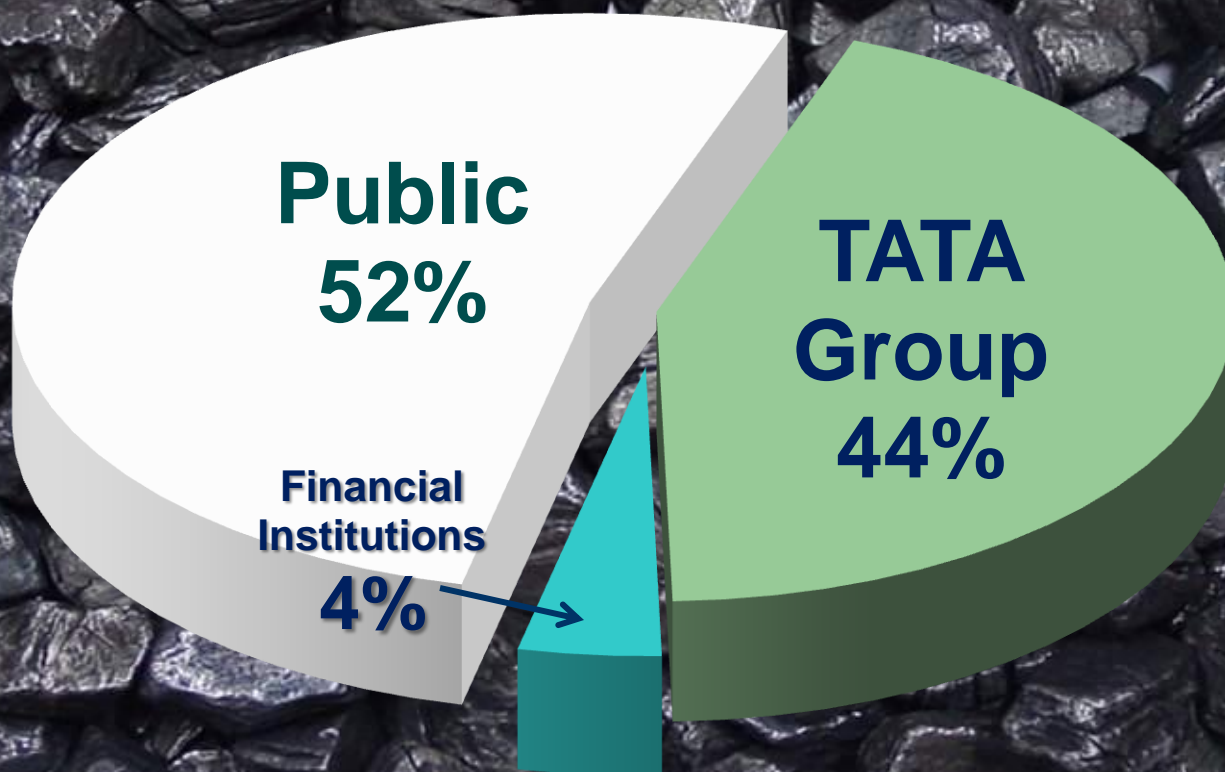
TATA Sponge Iron Limited – Company Outline



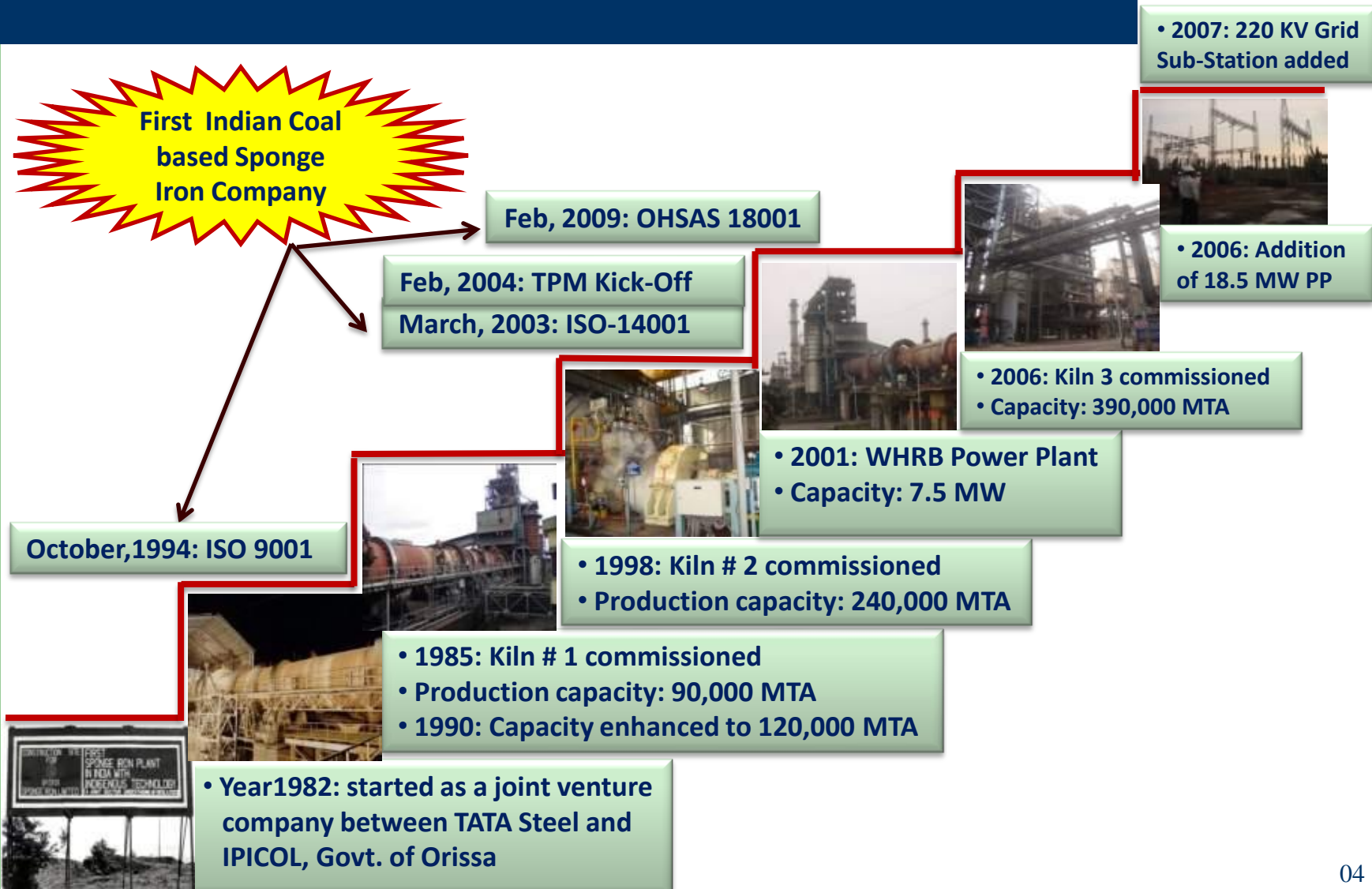
- In the Orissa province (Eastern part of India)
- 275 KMs from the State Capital
- Remote mining cum agriculture area

TATA Sponge Iron Limited

Turnover > 7000 Million INR

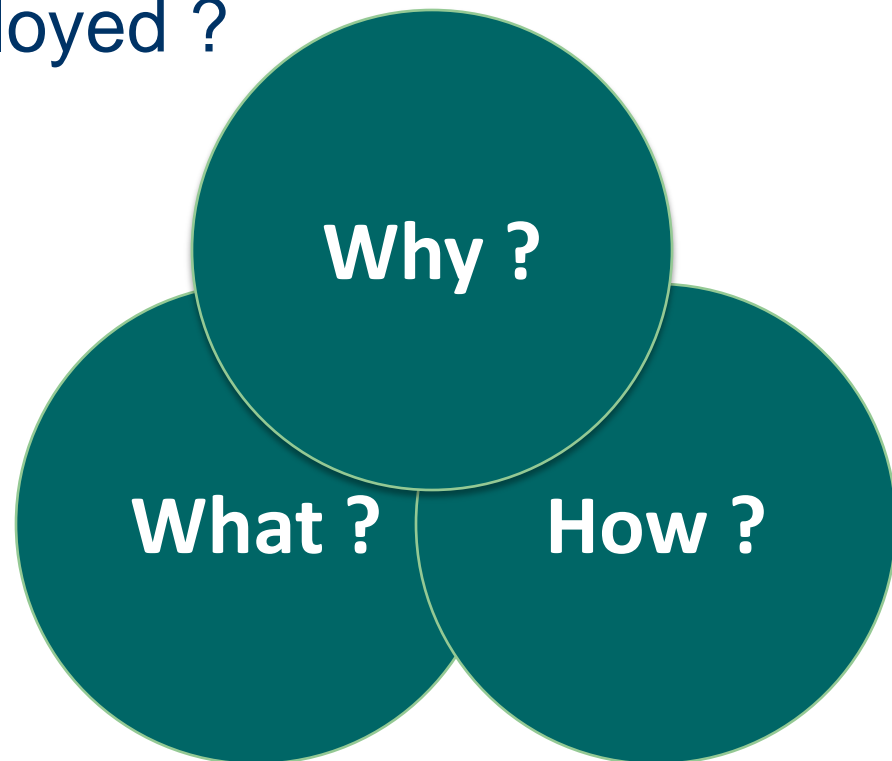


Major Mile Stones



Introduction

- What is Policy Deployment ?
- Why Policy Deployment at TATA Sponge?
- How it was deployed ?



Why Policy Deployment at Tata Sponge ?

- The feeling of many good, but unaligned goals
- The need for a consistent top-to-bottom message
- Bottom line – the real realization of success
- Clear company objectives
- Activity breakdown becomes easy
- Each person in the organization knows what his or her contribution would be
- A clear insight in whether the progress is according to schedule
- Easy monitoring of the planned improvements

Tata Sponge : Vision & Mission

VISION

TATA Sponge will endeavor to become a 1.5 Milln. Ton Steel Producer. We will realize our goal by consolidating existing business and grow adopting new eco-friendly technologies

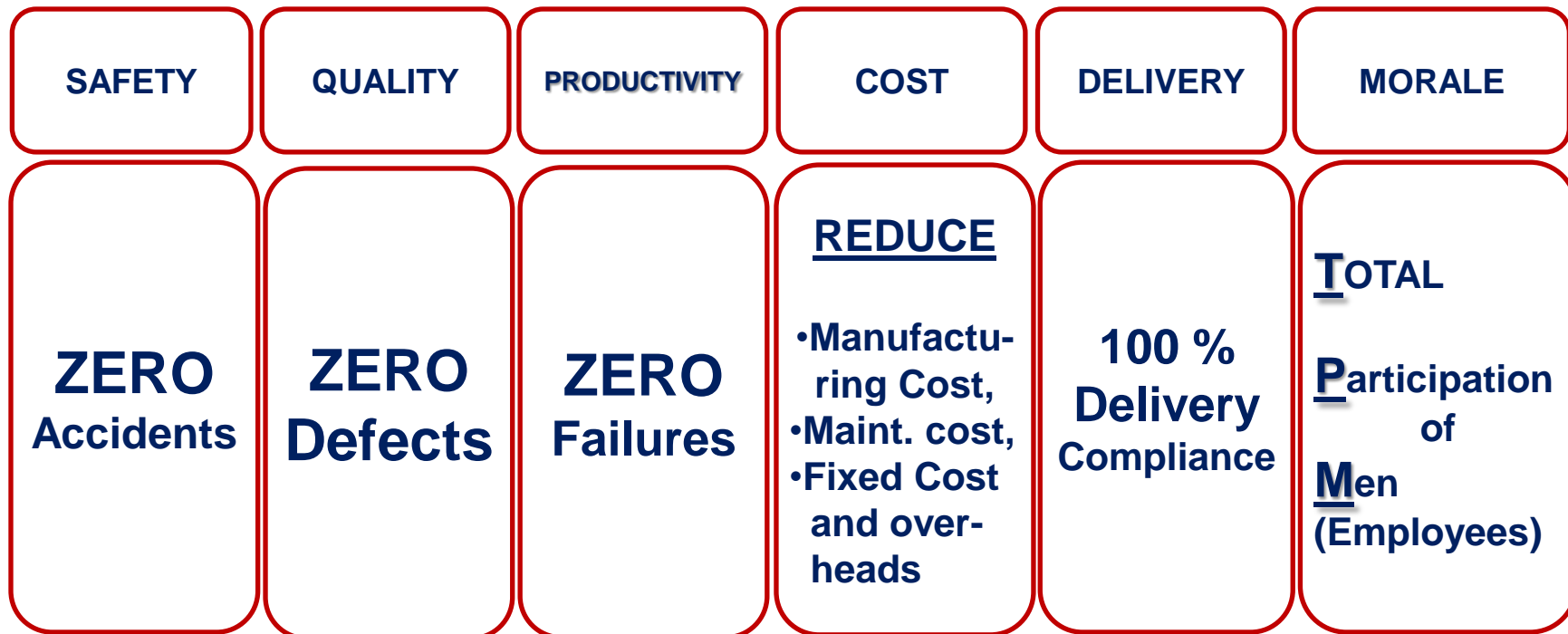
MISSION

Tata Sponge shall return to society from what it earns, to improve the quality of life in India and its immediate surroundings. Tata Sponge shall strive to become increasingly profitable in an eco-friendly manner, become a learning & knowledge organization and serve its stakeholders



TPM to support Business strategy

Tata Sponge adopted TPM to support its Business Strategy



TPM Policy at TATA Sponge




TPM POLICY

Tata Sponge Iron Limited is committed to the practice of Total Productive Maintenance (TPM) for achieving excellence in all its spheres of activities with participation of all its employees and for delighting its customers. It will establish itself as the preferred supplier of metallics by manufacturing and supplying high and consistent quality products at competitive prices. In order to attain this, the company shall :

- Attempt to achieve zero failures, zero defects and zero accidents to maximize employee and plant productivity through intensive use of analytical techniques and by developing knowledge based employees through continuous training
- Improve the morale of its employees by providing clean and green environment at their places of work and residences.


 (Suresh Thawani)
 Managing Director

1st April 2008

TATA Sponge Iron Limited

POLICY Highlights

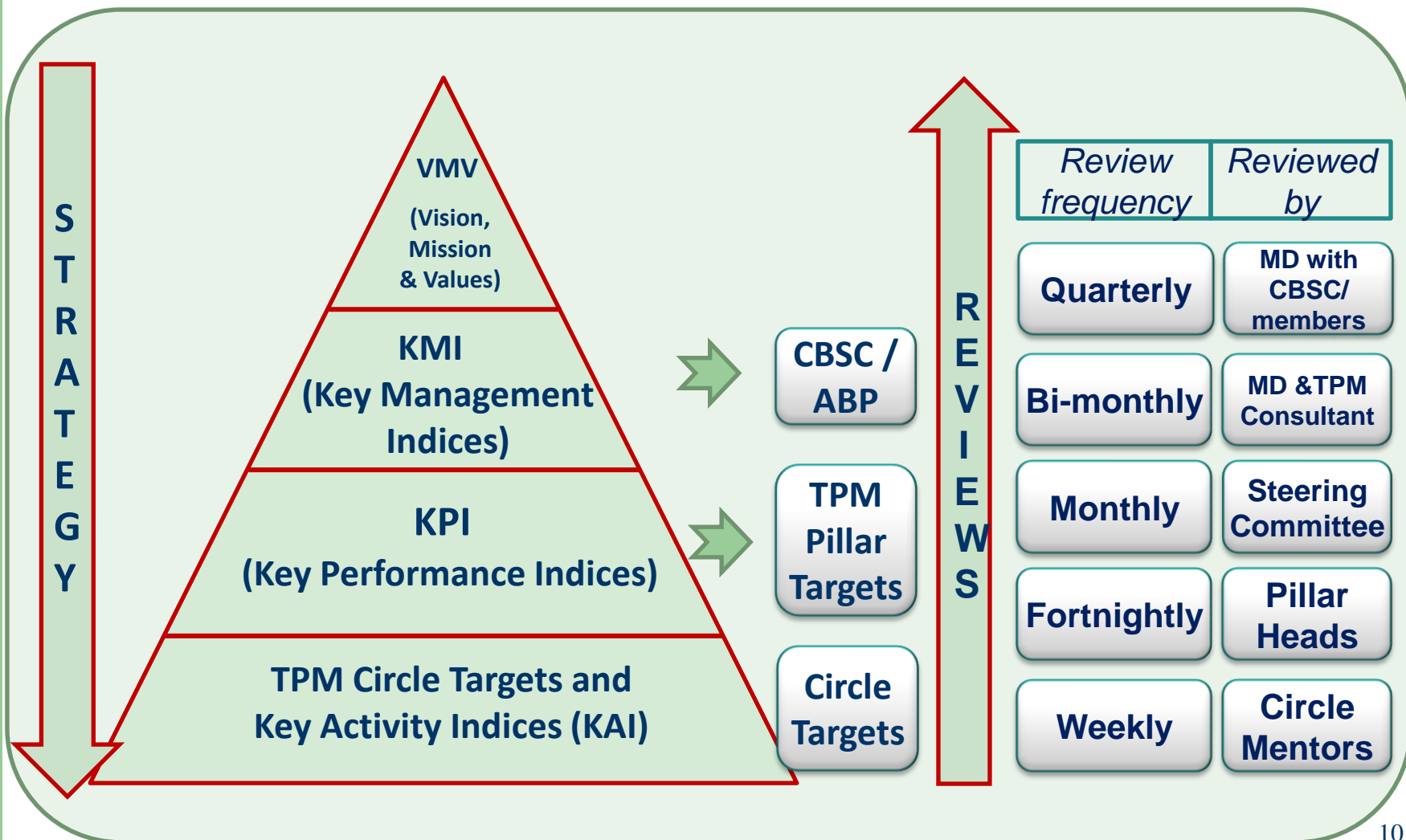
**Achieve Business Excellence
 through
 Participation of ALL
 Employees for achieving**



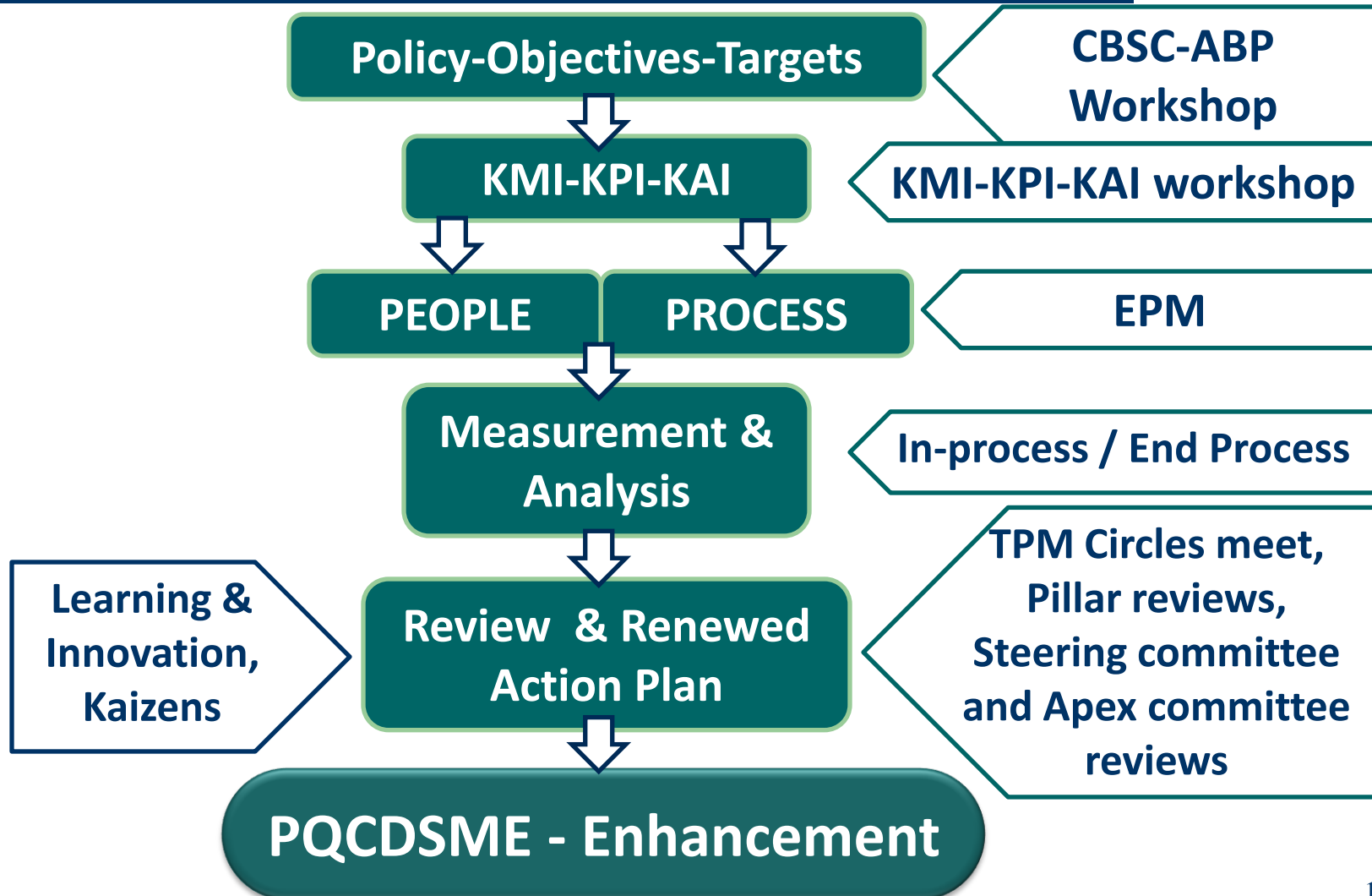
**Defects
 Failures
 Accidents**

- thro' intensive use of analytical techniques
- by developing Knowledge based employees thro' continuous training
- by improving morale, providing clean & green environment

Policy Deployment thro' TPM



Policy Deployment thro' KMI-KPI-KAI



Vision-Mission versus KMI Matrix

Sl. No.	Key Management Indices (KMI) ↓	Elements of Vision, Mission and Values (VMV)						
		1.5 million ton steel producer	Consolidate existing business	Adopt eco-friendly technologies	Responsible corporate citizen	Become increasingly profitable	Learning & knowledge organization	Serve stakeholders
		1	2	3	4	5	6	7
1	Achieve Capacity utilization	✓	✓		✓	✓	✓	✓
2	Enhance revenue Generation for growth	✓	✓		✓	✓	✓	✓
3	Improve profitability	✓	✓		✓	✓	✓	✓
4	Maximize employee and plant productivity	✓	✓			✓	✓	
5	Sustain consistent product quality	✓					✓	
6	Contain cost	✓	✓	✓	✓	✓		
7	Improve Customer Satisfaction Index	✓	✓	✓	✓		✓	✓
8	No harm to any one	✓	✓	✓			✓	✓
9	Exceed Environmental norms and focus on Climate Change	✓	✓	✓				
10	Enhance employee engagement	✓	✓	✓			✓	✓
11	Institutionalize Innovation	✓			✓		✓	
12	Grow with Community	✓		✓				✓

KMI versus KPI Matrix

Sl. No	Key Performance Indices (KPI) ↓	Key Management Indices (KMI)								
		Achieve Capacity utilization	Enhance revenue Generation for growth	Improve profitability	Maximize employee and plant productivity	sustain high product quality	Contain cost	CS I	Improve knowledge base & human capital	Enhance employee engagement
		1	2	3	4	5	6	7	8	9
1	Equipment availability	✓	✓	✓	✓	✓	✓	✓		✓
2	Production Volume	✓	✓	✓	✓					
3	Overall OEE	✓	✓		✓	✓	✓			
4	Turnover	✓	✓	✓	✓					
5	Net revenue realization	✓	✓	✓	✓	✓	✓			
6	Profit Before Tax		✓	✓	✓		✓			
7	Manpower Productivity	✓	✓	✓	✓				✓	✓
8	In-house Quality defect trend			✓	✓	✓	✓	✓	✓	✓
9	Customer Complaints			✓		✓	✓	✓		

KPI versus KAI Matrix

Sl. No	Key Activity Indices (KAI) ↓	Key Performance Indices (KPI)								
		Equipment availability	Prodn. Volume	OEE	Turnover	Manpower productivity	Defect Trend	Maint. Cost	Manuf. Cost	Loss reduction
		1	2	3	4	5	8	6	7	9
1	No. of red tags closed	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	No. of OPLs generated and operators trained	✓	✓	✓		✓				
3	No. of failures Vrs. No. of root cause analysis done	✓		✓		✓	✓	✓	✓	✓
5	No. of Gemba Kaizens implemented	✓	✓		✓	✓	✓	✓		
6	Standardize maintenance spares	✓			✓	✓		✓	✓	✓
7	Improve & sustain JH step 4	✓	✓			✓	✓	✓		
8	Track and analyze minor stoppages for reduction	✓	✓	✓						
9	Increase implementation of MP information	✓	✓	✓	✓					
10	Update Loss-Cost matrix			✓		✓		✓	✓	✓
11	Reduce in-house Quality defects	✓	✓	✓	✓	✓	✓	✓	✓	✓

KPI versus KAI Matrix

Sl. No.	Key Activity Indices (KAI) ↓		Key Performance Indices (KPI)									
			Prodn. Volume	Manpower productivity	Defect Trend	Maint. Cost	Manuf. cost	% Loss Redn.	Compliance to delivery schedule	Environmental results	Level of CO2 emissions	% Waste Utilization
			1	2	3	4	5	6	7	8	9	10
12	Reduce Specific raw material consumptions	Iron Ore	✓	✓	✓	✓	✓	✓				
		Coal	✓	✓	✓	✓	✓	✓				
		Power	✓	✓	✓	✓	✓	✓		✓		✓
13	Conserve electricity at office & home							✓		✓	✓	✓
14	Reduce lubricant loss/cost						✓	✓		✓	✓	
15	Reduce loss thro' Focused Improt. projects	Yield loss	✓	✓	✓		✓	✓				
		Defect loss	✓	✓	✓	✓	✓	✓				
		Speed loss	✓	✓			✓	✓				
		Shutdown loss	✓	✓		✓	✓	✓				
16	Fulfill delivery schedule								✓			
17	Reduce PR to PO cycle time								✓			
18	Reduce level of Suspended Particulate Matter (SPM)								✓	✓	✓	✓

KPI versus KAI Matrix

Sl. No.	Key Activity Indices (KAI) ↓	Key Performance Indices (KPI)							
		Accident / Incidents trend	Environmental results	Level of CO2 emissions	% of Loss redn.	Manpower productivity	Training Man days	% of emp. Engage ment	Employee Satisfaction Index
		1	2	3	4	5	6	7	8
19	Reduce level of Respirable Suspended Particulate Matter		✓		✓	✓		✓	✓
20	Reduce level of stack emissions		✓		✓	✓		✓	✓
21	Reduce level of fugitive dust		✓		✓	✓		✓	✓
22	Increase tree plantation		✓	✓	✓				✓
23	Reduce ambient noise levels		✓			✓		✓	✓
24	Sustain Zero reportable accidents	✓	✓	✓	✓	✓	✓	✓	✓
25	Sustain Zero non-reportable accidents	✓	✓	✓	✓	✓	✓	✓	✓
26	Reduce near-miss incidents	✓			✓	✓	✓	✓	✓
27	Identify and resolve as many numbers of unsafe conditions	✓				✓	✓	✓	✓
28	Identify and counsel employees on unsafe actions	✓				✓	✓	✓	✓

KMI-KPI-KAI in terms of PQCD SME

Elements of Vision & Mission	Elements of TPM Policy	KMI No	Key Management Indices (KMI)	KPI No	KPIs in terms of PQCD SM		TPM Pillar Responsible	Good	UoM
<p>To become 1.5 million Ton steel producer thro' consolidation of existing business</p> <p>Strive to become increasingly profitable</p>	Achieve Zero failures	1	Achieve Capacity Utilization	1.1	P	Equipment availability	PM, JH	↑	No
				1.2	P	Production volume	PM, JH	↑	No
				1.3	P	OEE	PM, JH	↑	No
	Maximize employee and plant productivity	2	Enhance revenue thro' efficient operations for growth	2.1	P	Turnover	PM, JH, KK, QM	↑	%
				2.2	P	Net Revenue realization	IFC, PM	↑	No
				2.3	P	Profit Before Tax	PM, JH, KK, QM	↑	MT
				2.4	P	Manpower Productivity	PM, JH, KK, QM	↑	MT/MT
				2.5	P	Revenue per employee	PM, JH, KK, QM	↑	Rs/MT
	Achieve Zero defects and Consistent Quality product	3	Sustain high product quality	3.1	Q	No. of customer complaints	JH, QM, PM, IFC	↓	No
				3.2	Q	In-house Quality Defect trend	JH, PM, QM, SHE	↓	No

KMI-KPI-KAI in terms of PQCD SME

Elements of Vision & Mission	Elements of TPM Policy	KMI No	Key Management Indices (KMI)	KPI No		KPIs in terms of PQCD SME	TPM Pillar Responsible	Good	UoM
Consolidate existing business	Competitive prices	4	Contain Cost	4.1	C	Manufacturing cost	PM, JH, KK, QM, OTPM	↓	Rs./MT
				4.2	C	Maintenance Cost	PM, JH, QM	↓	Rs./MT
				4.3	C	Loss reduction trend	KK, PM, QM	↓	%
	Preferred supplier of metallics and Customer delight	5	Customer satisfaction Index	5.1	D	Delivery compliance	PM, JH, KK, QM, OTPM	↑	%
				5.2	D	PR to PO Cycle time	PM, QM, KK, OTPM	↓	Days
Adopt Eco-friendly Technology	Provide Clean & Green environment	6	Exceed environmental norms Focus on Climate Change	6.1	D	Level of Suspended Particulate Matter in ambient air	SHE, PM, JH, IFC	↓	µg/m ³
				6.2	D	Level of stack emissions	SHE, JH, PM	↓	mg/Nm ₃
				6.3	D	Level of fugitive dust emissions	JH, PM, SHE	↓	µg/m ³
				6.4	D	Level of CO ₂ emissions	KK, JH, PM	↓	MT/MT
Remain as a Responsible corporate citizen	Zero Accidents	7	No Harm to any one	7.1	S	No. of first aid cases	JH, QM, PM, SHE,	↓	No
				7.2	S	No. of near miss incidents	JH, QM, PM,	↓	No
				7.3	S	No. of accident/incidents	SHE,	↓	No.

KMI-KPI and Target Setting

PQ CD S M	KPI No	KPI	UoM	G O O D	2003- 04 (Bench Mark)	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12
						TARGETS							
P	1.1	Equipment availability	%	↑	85.6	88	90	90	95	97	99	100	100
	1.2.1	Production (DRI)	MT	↑	216137	252075	240007	357000	370000	370000	370000	383000	390000
	1.2.2	Production (Power)	Million KWH	↑	55	67	180	180	180	180	184	188	193
	1.3	OEE	%	↑	78	80	75	65	75	80	82	85	86
	2.1	Turn over	Rs. Lacs	↑	20189	26366	30486	29909	43470	70297	56780	64780	70000
	2.2	NR	Rs. Lacs	↑	5700	10000	10500	8737	9657	11500	13200	14820	15000
	2.3	PBT	Rs. Lacs	↑	5307	767	9200	8400	2011	3970	8355	9000	9500
	2.4	Manpower productivity	MT/ Emp.	↑	NT	NT	550	650	750	800	850	850	900
Q	3.1	In-house Quality defect	%	↓	8.8	< 5	< 2	0	0	0	0	0	0
	3.2	No. of customer complaints	No.	↓	43	< 25	<15	0	0	0	0	0	0

KMI-KPI and Target Setting

PQ CD SM	KPI No	KPI	UoM	G O O D	2003- 04 Bench Mark	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-12
						TARGETS							
C	4.1	Manufacturing Cost	Rs/MT	↓	NT	NT	NT	NT	7310	7800	9550	10100	10250
	4.2	Maintenance Cost	Rs/MT	↓	482	450	430	550	500	450	400	385	370
	4.3	Loss reduction	%	↓	NT	NT	NT	NT	< 70 %	<50 %	< 25 %	0	0
D	5.1	Compliance to delivery schedule	%	↑	82	88	90	95	98	100	100	100	100
	5.2	PR to PO cycle time	Day	↓	NT	NT	42	45	40	25	20	15	12
	6.1	Level of SPM in the ambient air	µg/m ³	↓	486	300	300	300	250	250	200	200	< 200
	6.2	Level of stack emission	mg/N m ³	↓	134	100	100	100	80	50	45	45	< 45
	6.3	Level of fugitive dust emission	µg/m ³	↓	4086	3000	3000	2000	2000	2000	1500	1500	< 1500
	6.4	Level of CO ₂ emission	MT/M T	↓	NT	NT	NT	2.02	2.0	1.99	1.97	1.95	1.90
	6.5	Noise level	dB(A)	↓	88.52	88	88	87	87	87	87	87	87

Excellence at Tata Sponge thro' TPM



Commitment at different levels

- Understand the vision, set strategy
- Demonstrate visible commitment
- Provide resources

- Lead and coach
- Set priorities
- Set standards

- Involve and induce others' involvement in impvt. activity
- Follow standard
- Always be a part of the team
- Spot opportunities

Critical success factors

- Unconditional support of all level
- Integration of TPM initiatives into the company's strategy
- Cooperation from business units
- A common language
- Credibility within the organization
- Ability to measure results

Thank You
for
Your attention