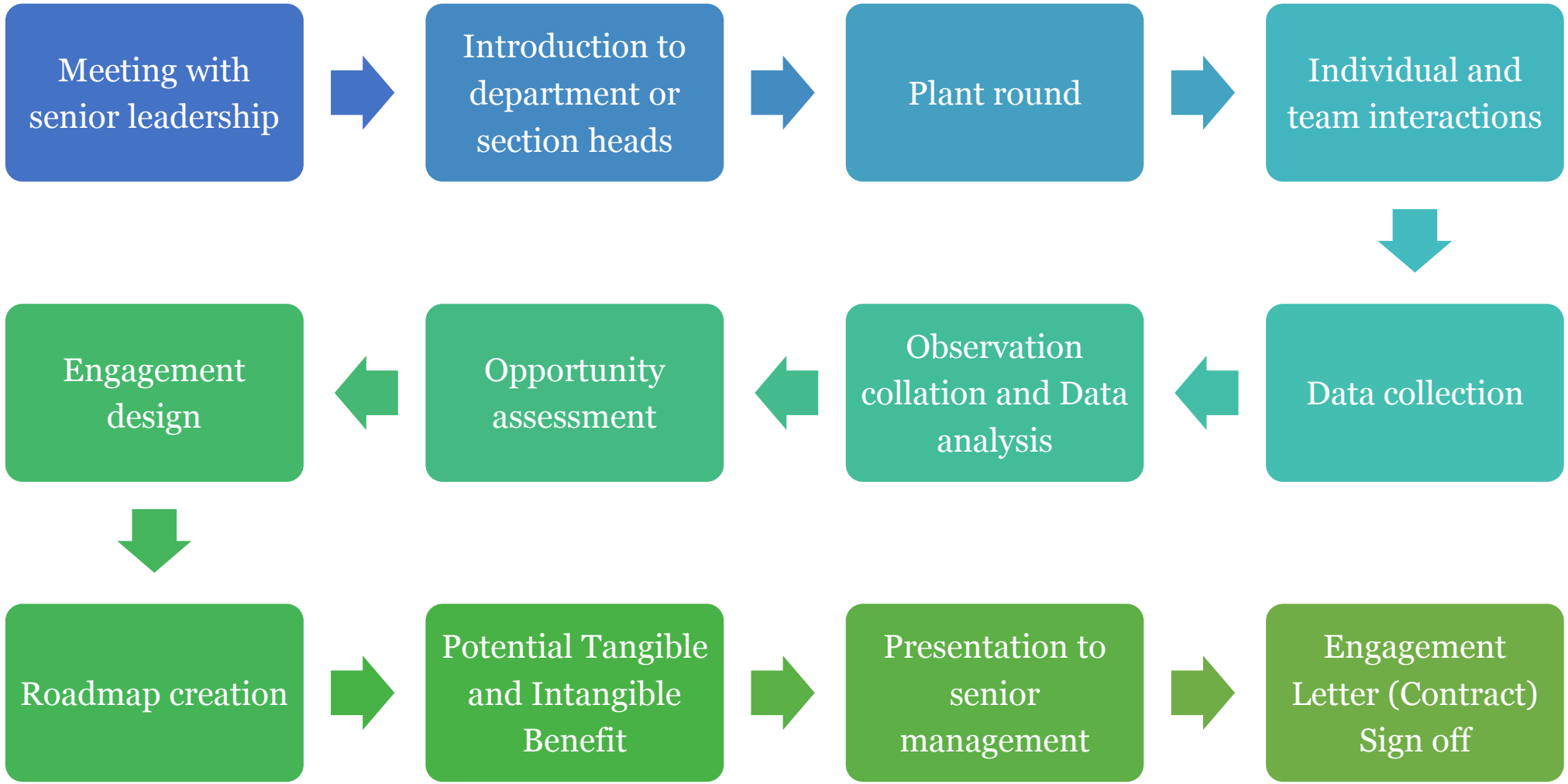
# Diagnostics Study

arvind consulting group

- *We propose a three day diagnostics study of your manufacturing facility*
- *We shall then submit a report of the potential savings and proposed solution/ methodology to realize the benefits.*
- *The study can be conducted on the earliest suiting your convenience*

- *The diagnostic study and presentation is **free** – (no professional fee is charged)*
- *Only air travel, local cab, boarding and lodging expenses of the visiting team need to be paid on actual basis or arranged by the client (for two persons)*

# The diagnostics study and presentation is a 3 day process



# Objectives of Dipstick Diagnostic Study…

Understand the Business, Manufacturing Process, Products & People

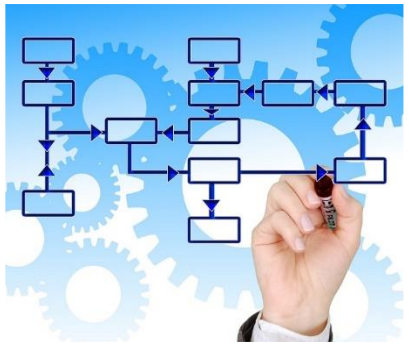
Understand and identify the opportunities for improvement in Productivity, Cost, Quality and Delivery

Understand and identify the cultural levers that to create a Improvement Oriented Culture

Qualitative and Quantitative Analysis

Design Consulting Intervention, get a fix on tangible and intangible gains

# Our diagnostics framework looks at Results, Processes and Culture



Process Analysis

- *Manufacturing Process*
- *Asset Care Process*
- *Production Planning & Scheduling Process*
- *Loss/ Waste management*

Performance Analysis

- *Cost Analysis*
- *Capacity Analysis*
- *Quality Analysis*
- *Yield Analysis*
- *Efficiency Analysis*
- *Delivery Analysis*


Culture Assessment

- *Values*
- *Leadership*
- *Systems*
- *Cross Functional Working*
- *Industrial Relations*
- *Daily Management Practices*


Methods and Tools

- *Data Collection*
- *Process Walk Through*
- *Focused Group Discussions*
- *Assessment frameworks*

# We have very realistic and scientific methods to arrive at expected numbers for performance parameters


| Area | Key Performance Indicator | Unit of Measure | Best in Class | Good | Average | Assumptions/ Remarks |
|---|---|---|---|---|---|---|
| **Scrap handling** | Processing equipment efficiencies | % | >80 | 70-80 | <70 | |
| **Induction Furnace** | Specific power consumption | Kwh/ton | <520 | 520-550 | >550 | 30 ton furnace and 13.5 MW power |
| | Tap to Tap time | mins | <75 | 75-85 | >85 | 30 ton furnace and 13.5 MW power |
| | Lining Life | No. of heats | >35 | 30-35 | <30 | 30 ton furnace Acidic ramming mass |
| **Caster** | Availability | % | >95 | 90-95 | <90 | monthly average |
| **Reheating furnace** | Specific fuel consumption (eq. pulverized coal) | Kg/ton | <50 | 50-60 | >60 | pulverized coal, (cv is 5500) |
| **Rolling mill (rebar mill)** | Overall Plant efficiencies | % | 80-85 | 70-80 | <70 | |
| | Availability (run time) | % | >92 | 85-92 | <8 | monthly average |
| | Setup time (section change time ) | mins/changeover | <10 | <30 | >30 | |
| | Material Yield | % | >98 | 96-98 | <96% | |
| | Specific power consumption | Kwh/ton | <85 | 85-95 | >95 | |
| | Burning loss | % | <1 | 1-1.5 | >1.5 | about 60% hot billet |

# Tangible and intangible benefits

## There exists potential of annualized benefits to the tune of 50-60 Crores

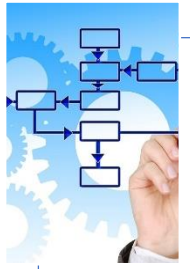
| Opportunity | UOM | Actual Value | Should be | Gap | Improvement Potential | Annualized benefit |
|---|---|---|---|---|---|---|
| Power consumption at SMS | KWh/ton | | | | | 482,62,500 |
| Production | Tons/day | | | | | 1097,00,000 |
| Rolling Mill Utilization | Tons/day | | | | | 4026,08,000 |
| Spares and consumables | Rs./ton | | | | | |
| Yield Losses Scrap to Metal | % | | | | | |
| Yield Losses Metal to TMT | % | | | | | |
| Power consumption at rolling mill | KWh/ton | | | | | |
| **TOTAL** | | | | | | **5905,70,000** |



**Assumptions**

- 330 days a year
- Electricity cost @ INR 6.5 per unit
- Weighted cost of scrap INR 20 per Kg
- Contribution : INR 4 per Kg
- WACC: 10%

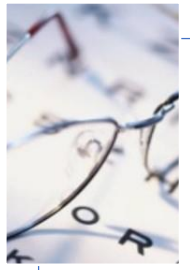
# Intangible benefit and sustainability measures



Systems and processes for sustained results

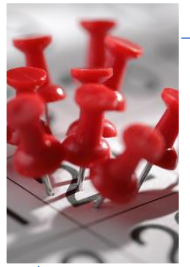
Robust maintenance practices


Improved plant reliability - More predictable plant behaviour



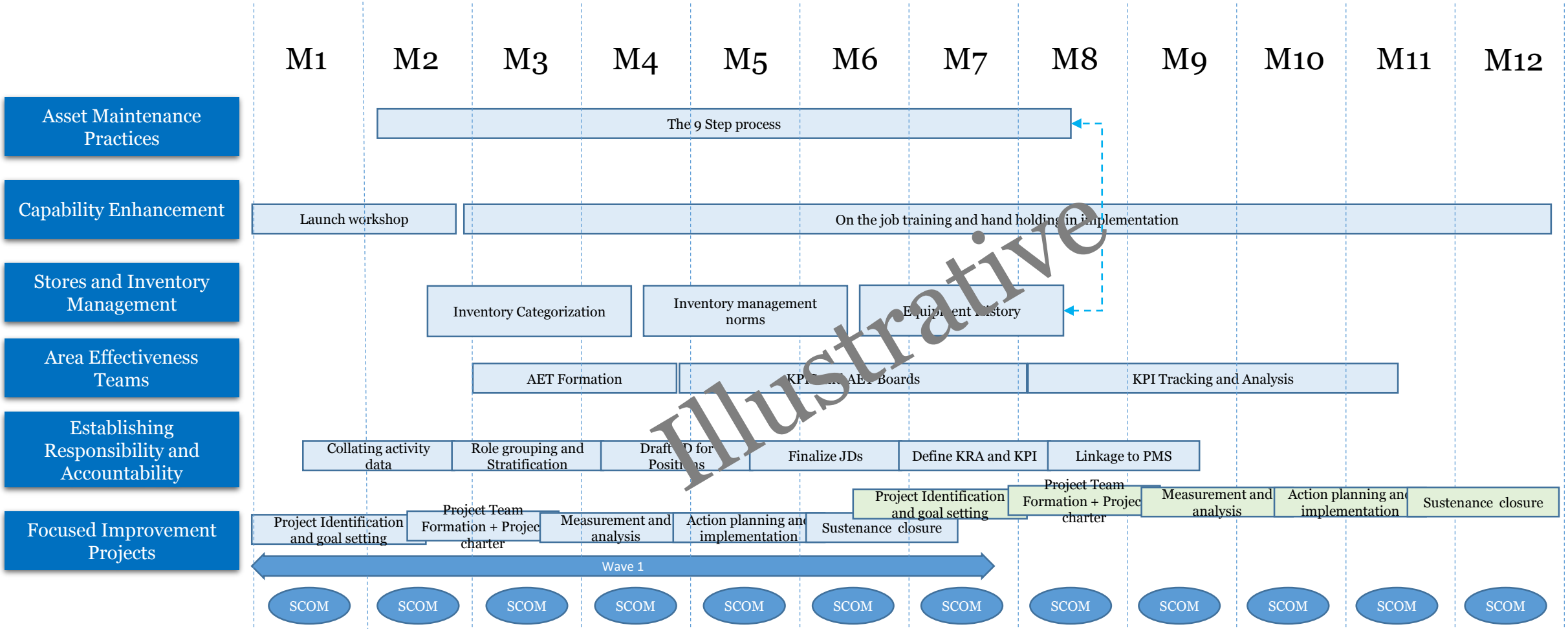
Scientific and structured approach towards problem solving


Defined responsibility and enhanced accountability



Improved morale and teamwork

# Engagement tracks and roadmap




*A detailed weekly plan shall be prepared in the first month of the engagement*

*SCOM: Steering committee meeting*

# Illustrative implemented actions

## *Improving Delivery*

- Understanding the AS IS Sales and Operations Planning Process
- Identifying the improvement areas in planning
- Implementing Supermarket

## *Manpower Optimization*

- Anaysis of variance of manpower distribution
- Set up working rules and guideline w r t manpower deployment
- Optimize floating pools to take care of product mix fluctuations and express orders

## *Improving Flow*

- Buffer Management
- Establishing Pull
- Minimizing Material Movement

## *Production plan*

- Device a production plan
- Replenishment based planning
- Manpower deployment plan

## *Rejects and Rework*

- Analysis of current state
- Devise and implement systems to minimize defect generation
- Devise and implement systems to maximize defect detection

## *Maintenance*

- Understant the AS IS maintenance systems
- Assess the maintenance manpower adequacy
- Make people aware of maintenance metrics MTTR, MTBF
- Streamline sparepart management system (ABC, VED analysis)

## *Enablers*

- Deciding metrics
- Improving OEE
- Management Information System at Wing Incharge and Production Heads' Level
- Record Rollers

## *Reduction in wastages*

- Waste Identification
- Waste Measurement Mechanism
- Implementation of wastage reduction actions

# Thank you!

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