PROJECT MANAGEMENT CONCLAVE, 2018

Ranchi, June 2-3

Structured Project Management – the key to Project Success

Title: Project Management at SMS group – Techniques and Challenges

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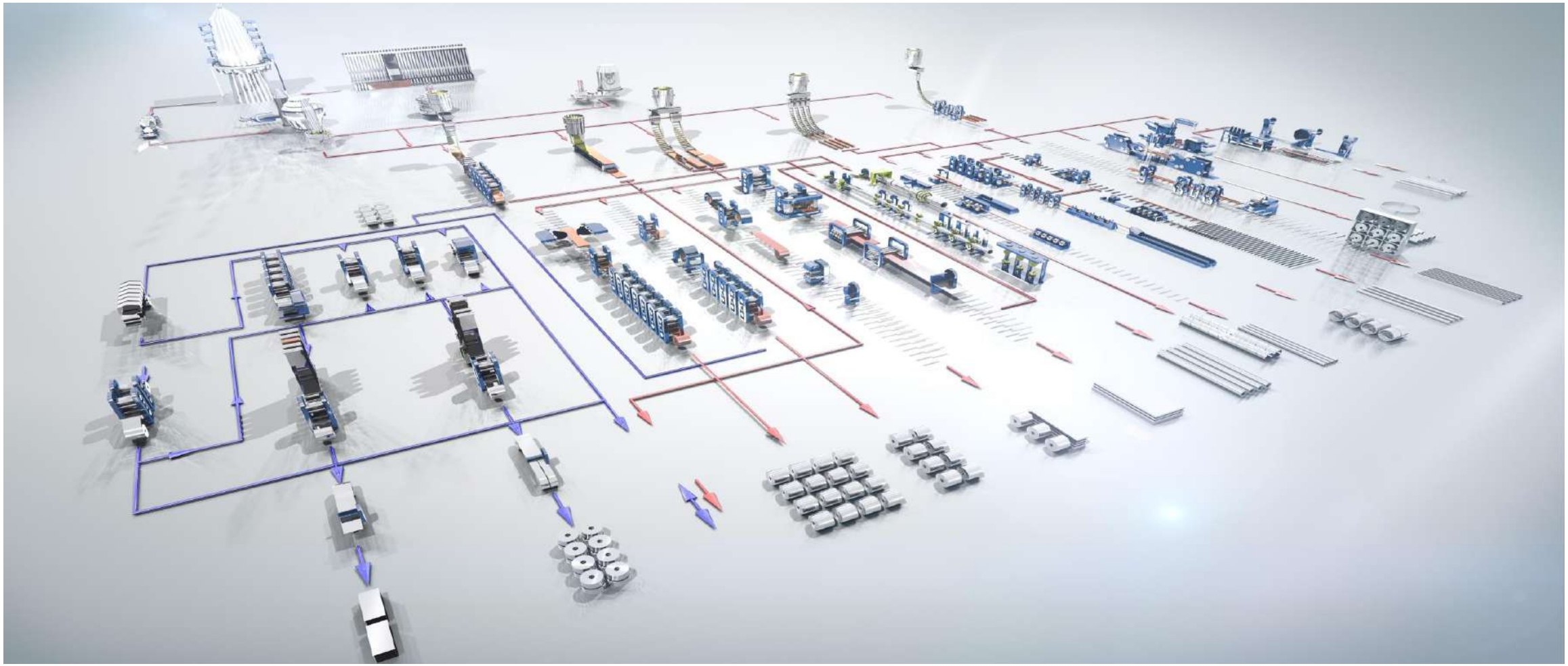
SMS India Pvt. Ltd.




Portfolio



Hilchenbach

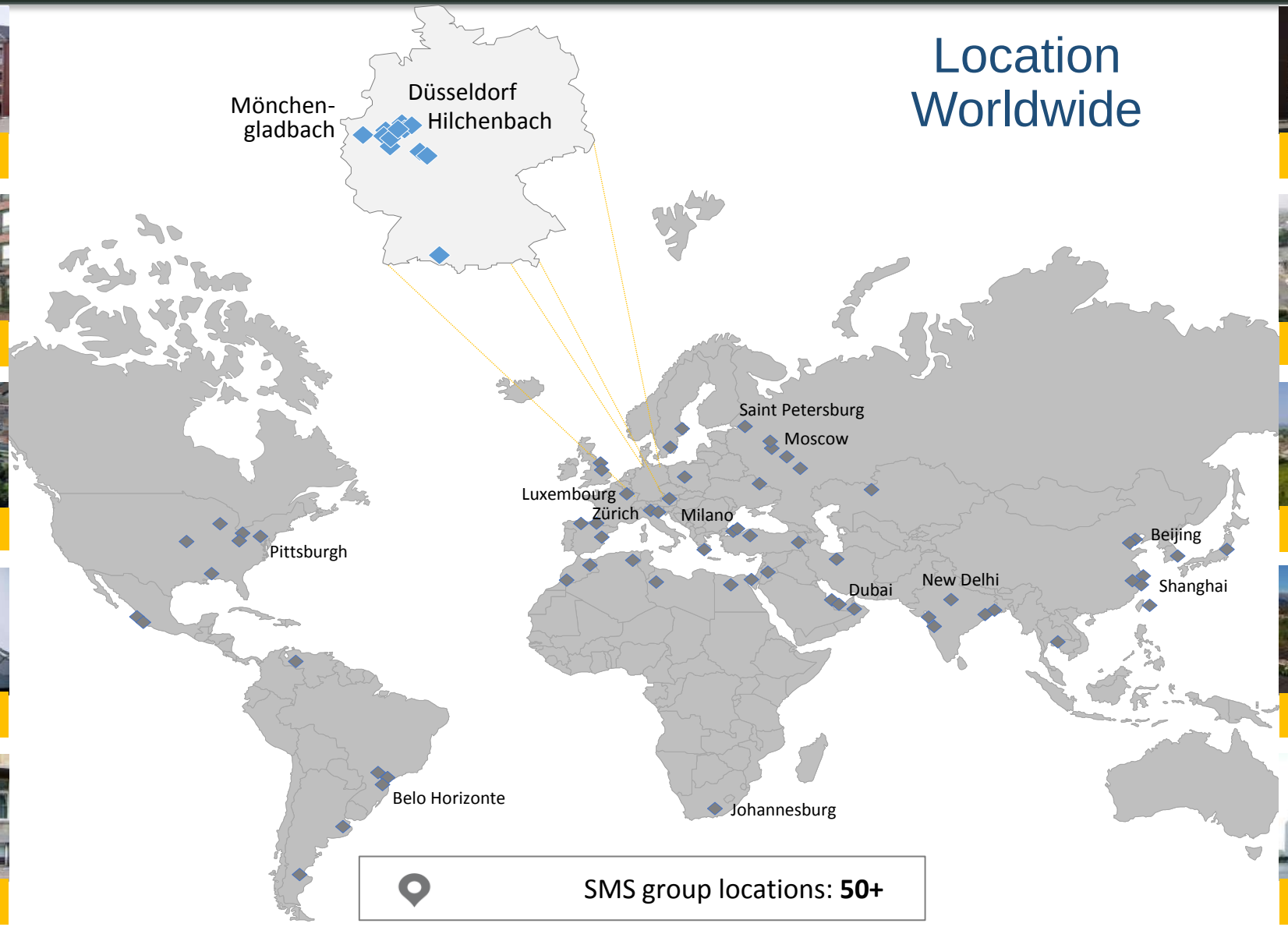
Düsseldorf

Mönchengladbach

Luxembourg

Zürich

Location Worldwide



SMS group locations: **50+**

Pittsburgh

Gurugram

Bhubaneswar

Tarcento

Shanghai

SMS India Locations

SMS India Pvt. Ltd (HQ)

- Available office space – 10000 m^2
- Number of work stations – 750
- Electrical test and simulation laboratory
- Certified Green Office – Gold Certificate

Engineering Office

- Available office space – 1180 m2
- Number of workstations - 126
- **Mechanical engineering, project management** (Gas cleaning, dedusting plants)
- **Electrical & Automation** (Basic engineering – gas cleaning, dedusting; Level – 2 Steelmaking and casting; Level – 1 Rolling mills)

SMS India Pvt. Ltd.

- Available office space – 4398 m2
- Number of work stations – 200

Manufacturing and Service Plant

- Inaugurated in 2014, 100% financed out of SMS India
- Available plant space – 21750 m2
- Number of own employees – 166

Key Benefits

- **Complete range of products and services**
- **Experienced employees**
- **Medium-sized group of companies with less bureaucracy and short response times**
- **Clear focus on service**
- **Automation of all processes and systems**
- **Trailblazing innovations such as CSP® and CVCplus®**
- **In-house manufacture of core components**

Project awarded in last few years

- **TATA Steel, Jamshedpur**
  - ➔ RH Revamp – Conversion of single station to Twin station at LD2
  - ➔ Scarfing Line at LD2 Shop
  - ➔ 4 x LD Wet Gas ESPs for LD1 and LD2 shops
  - ➔ Modification of LF roofs at LD 1 shop
  - ➔ Modification of Electrolytic Cleaning Line
- **TATA Steel, Kalinganagar**
  - ➔ 2 x Wet LD Gas ESPs
  - ➔ Twin Ladle Furnace
- **SAIL, RSP, Rourkela**
  - ➔ Lifting Hoods
- **SAIL, BSL, Bokaro**
  - ➔ Twin LF
- **RINL, Vizag**
  - ➔ 1x5 Strand Bloom cum Round Caster
  - ➔ Forged Wheel Plant

- **JSW, Toranagallu**
  - ➔ Secondary dedusting at SMS II
  - ➔ Zero Power Furnace, Ladle Furnace at SMS III
  - ➔ RH at SMS I
- **JSW, Dolvi**
  - ➔ FES Revamp
- **JSW, Vasind**
  - ➔ Continuous Galvanizing Line
  - ➔ PLTCM
- **Jindal Stainless Limited, Duburi**
  - ➔ Revamp of EAF
- **Jindal Steel and Power Limited, Angul**
  - ➔ Revamp of 250T Electric Arc Furnace
  - ➔ New BOF shop
  - ➔ 1.4 MTPA Rebar Mill

Project awarded in last few years

- **MESCO, Kalinganagar**
  - ➔ 50T EAF, LF and auxiliaries.
- **Hoa Phat, Vietnam**

  4 X BOF Converters
- **Arcelor Mittal, Annaba, Algeria**
  - ➔ Transfer cars for steel melt shop
- **BPSL, Rengali**
  - ➔ 1x250T BOF Converter, Gas recovery and export system, 1x250T LF with auxiliaries.
- **Tulachermet (through SMS Germany)**
  - ➔ Transfer cars

- **Miscellaneaus orders**
  - ➔ 10 MN and 18 MN Aluminium Extrusion lines at Varron Autokast Limited
  - ➔ Contirod Line (local portion) at Birla copper.
  - ➔ 14 Mio. Tons Extrusion Press at Jawaharlal Nehru Aluminium Research, Development and Design Centre, Nagpur.
  - ➔ 1x2 Strand Billet Caster at SLR Metallic Limited

Project commissioned in last few years

- **TATA Steel, Jamshedpur**
  - ➔ LD2 – Conversion of single station RH to Twin station RH
  - ➔ 2 x 160T BOF Converters, 160T HMDS, 160T Twin Ladle Furnace at LD3 shop
  - ➔ Scarfing Line
  - ➔ LD Gas ESP
  - ➔ LF Roofs
- **TATA Steel, Kalinganagar**
  - ➔ 2 x 310T BOF Converter -1 and 2, 340T HMDS, CasOB, RH Degasser, Caster
  - ➔ LD Gas ESP
- **SAIL, RSP, Rourkela**
  - ➔ 2500 mm Caster in SMS II shop
  - ➔ 150T BOF Converter
  - ➔ Revamp of converter in SMS-I
- **RINL, Vizag**
  - ➔ BOF 150T Converters 1, 2 GCP at SMS-II shop
  - ➔ 150T Ladle furnace-1 & 2, 150T RH at SMS-II shop
  - ➔ 150T BOF Converter 3 at SMS-II Shop
  - ➔ Caster in SMS-II shop
  - ➔ Revamp of Converter-A, Converter-B and Converter-C at SMS-I Shop
- **IISCO, Burnpur**
  - ➔ 3 x 150T BOF Converters
  - ➔ 2 x 150T Ladle furnaces, 150T RH Degasser and other auxilliaries
- **Neelanchal Ispat Nigam Limited, Duburi**
  - ➔ 110T BOF Converter, GCP and Billet Caster

Project commissioned in last few years

- **JSW, Toranagallu**
  - ➔ Slab conditioning line
  - ➔ 160T EAF, 160T LF, 2 x 80T HMDS at SMS3
  - ➔ RH revamp at SMS1 and SMS2
- **SAIL, BSP, Bhilai**
  - ➔ Universal Rail Mill
- **Jindal Steel and Power Limited, Angul**
  - ➔ 250T Electric Arc Furnace, Ladle furnace and RH Degasser
  - ➔ 1.4 MTPA Rebar Mill (under commissioning)
  - ➔ 1x8 Strand Billet Caster
- ***Jindal Steel and Power Limited, Raigarh***
  - ➔ Slab caster (3000 mm) revamp
  - ➔ FES Revamp for 100T EAF-1 and EAF-2
  - ➔ 100T EAF-1 and 100T EAF-2 Revamp

- ***Others***
  - ➔ 60T EAF, LF, VD, Round and Billet caster and FES at Kamineni Steel and Power Ltd.
  - ➔ 1 x 5 Strand. 1.2 MTPA Billet caster at BMM Ispat
  - ➔ 1 x 2 Strand Billet /Round Caster at SLR Metallics Limited
  - ➔ Meltshop and Billet caster (0.3 MTPA Mini Steel Mill) at Al Qaryan Steel, Dammam, Saudi Arabia

Project commissioned in last few years

We have commissioned six BOF converters ranging from 150T to 310T in year 2016. This is a record figure for an Indian company.

Also, we have commissioned some of the plant well before scheduled time giving benefit to customers specially in projects of national importance. e.g. commissioning of converter-B & C revamp at Vizag Steel Plant.

In Converter-C at Vizag, 31 heats in a day is achieved, whereas rated capacity of converter is 26 heats per day.

On first day of commissioning of Converter-B at Vizag, 24 heats were taken in 24 hours.

Basic characteristics of Project Management

A Project is

- Unique in nature
- Defined timescale
- Approved budget
- Complexity and dynamism
- Limited resources
- Element of risk
- Beneficial change
- Temporary organization

Requirement of structured project management

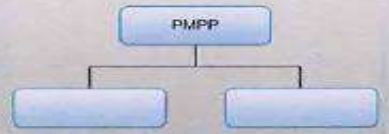
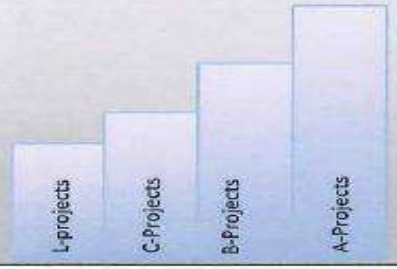
Project Handling is becoming more and more complex due to

- Tight time schedules
- Cost pressure
- Increasing trend of Modification of existing facilities/Revamps
- With regard to the contracts and the stakeholders, projects are getting more and more complex - challenges increase
- Unique nature of each project
- Scope Complexity – EPC, Turnkey

Significance of structured project management

Handling of complex projects requires efficient project management as the key to its succes

- Structured project organizations
- Competent Project Managers and team members - Clear definition of goals
- Standardized project management processes and methods
- Clear definitions of the interfaces
- Project Goals
- Proper controlling of variables
- Proper planning
- Proper scheduling
- Scope Planning – Triple constraints

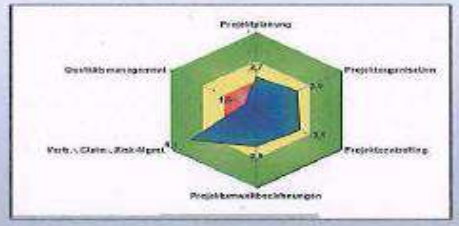
Organization	Clear **Commitment** towards PM  **„10 PM-Principles“**	Central PM department with **process ownership** 	**Quality Assurance**  **Project reviews**
People	**Empowerment** of project managers 	**Target Agreement** for project managers 	PM **trainings** and **certification**  SMS AKADEMIE
Process and methods	**Categorizer** 	**Scalable PM process including** Quality Gates Milestones	Improved Claims- and **Risk management** 

Group-wide Project Management structure is implemented

Project Management Basics

- Process
- Methods
- Tools

Project Reviews



Professional project reporting and evaluation

- Project reporting
- Portfolio reporting

Implemantation of PM-Cockpit

Community

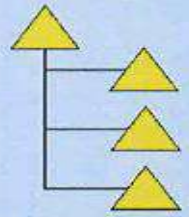
- PM-Implementation
- Accomplishing PM-Trainings
- Sharing information
- Continuous improvement

What is actually managed

Achievement of project goals

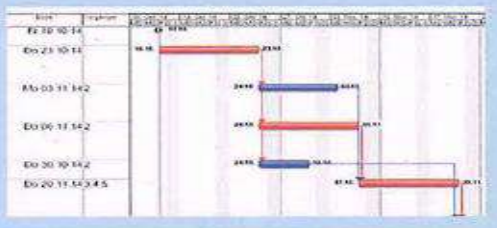
Project strategy

Scope

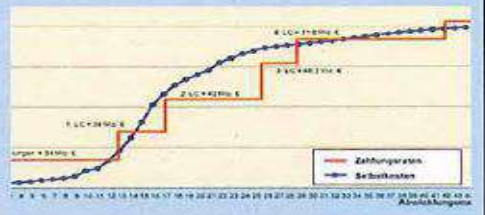


Supplies
Services

Dates



Costs

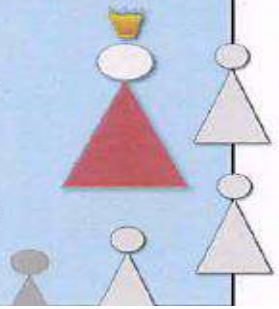


Resources
Cash flow

Project team

Relationship with stakeholder

Customer
In-house consortium members
Suppliers
Authorities
etc.



Risks (& opportunities)

Changes, deviations, claims

Project management Principles

1. The **project management process** is applied consistently from the sales phase through to the handling phase.
2. Throughout the order handling, these processes and methods are implemented as a **mandatory factor for** attaining the **project goals** and the targeted **project quality**.
3. The Project Manager reports to the **Project Owner**, who represents the wider **strategic interests** of the company in the project.
4. For SMS, **Customer satisfaction** is of prime importance.
5. The Project Manager is responsible for the attainment of the **project goals** agreed with him at the start of the project.
6. The Project Managers are assigned temporary **entrepreneurial status** in the management of their projects.
7. Decisions relevant for the project's success are made by the Project Manager based on the **"two-person rule".**
8. Our Project Managers possess the necessary **professional and personal skills**. They are provided **formal competencies (authority, freedom of action**) in order to complete the **entrepreneurial task**.
9. The SMS project management system is used **internationally**, and is **applicable worldwide**.
10. Through the systematic processing of **"Lessons Learnt**" we promote the **continuous improvement process**

Goal Setting for PM : Agreement with PO

SMART Goals are set for Project Managers

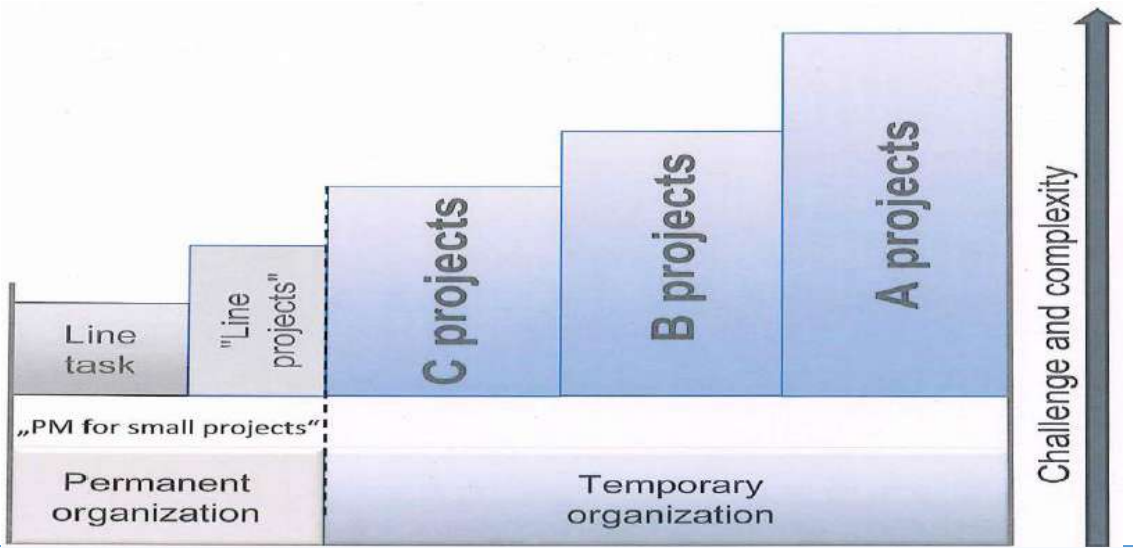
- Specific
- Measurable
- Actively Influenceable
- Realistic
- Time Scheduled

Typical Objectives/Goals

- Promotion of customer satisfaction
- Adherence to defined milestone
- Implementation of specific standard modules

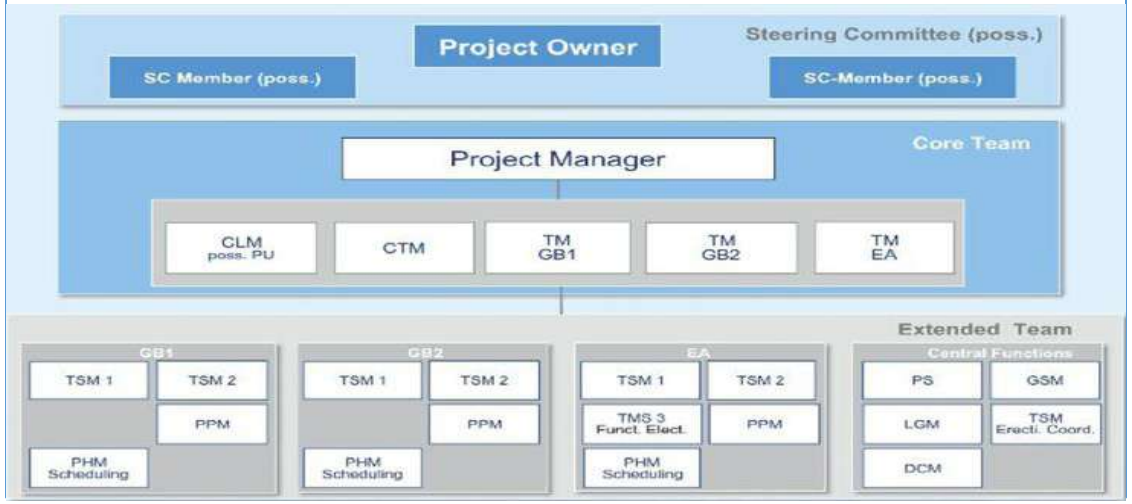
Systematic Project Categorization

- Project Categorization process is a systematic one. Project complexity depends on a number of factors. These factors are considered in the SMS project categorization tool based on questions on the following subject areas.
  - ➔ Stakeholders and contractual complexities
  - ➔ Financial and commercial complexity
  - ➔ Technical and organizational complexity



Organization Chart based on Project Category

- ➔ Organization chart are different for different Project Category
- ➔ Roll based Organization Chart
- ➔ Steering committee for complex projects
- ➔ Objective, Organizational positioning, Tasks, competencies and responsibilities of all the Rolls e.g. project owner, project manager, Contract manager, System technical manager etc. are clearly defined.



Project Management Processes

Structure of PM Processes - Quality Gates, PM milestones, checklists

Level
Quality Gates including reports

- Project Manager schedules QGs at the project start
- Status meeting by PM
- Generally valid contents of QG reports

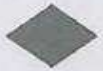
Example:
QG6

Release of project planning

Level
Project Management Milestones (PM-MS)

- PM-MS form part of the network plan in SAP
- Selection and number of PM-MS must be defined specifically for the project
- Responsibility for planning and monitoring of the PM-MS lies with the PM

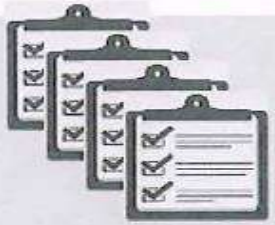
Example:
PM-MS 10



CA performed

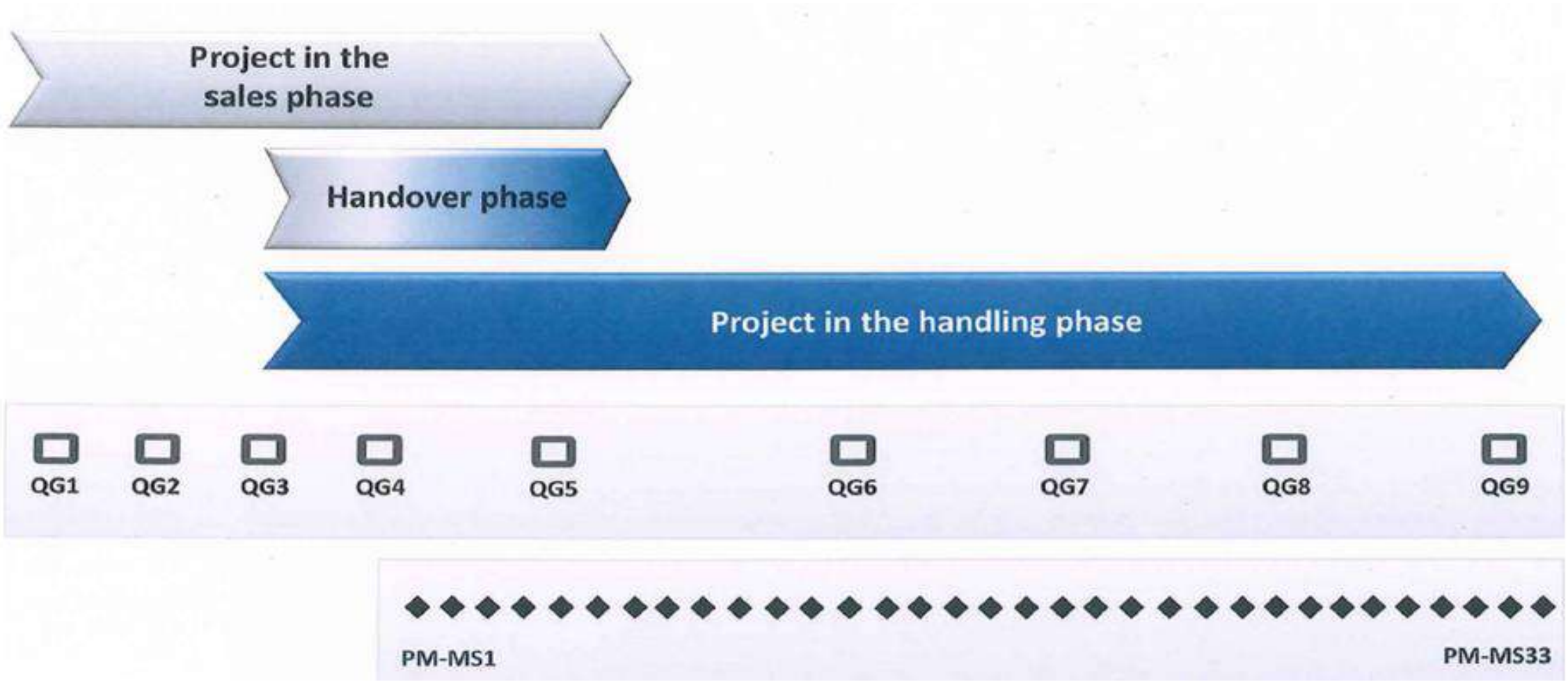
Level
Checklists

- Responsibility for content-related tasks lies with the specialist departments, e.g., Engineering, Production, Logistics
- PM, CTM and TM ensure that the relevant checklists in the project are completed



Checklists are BU and department-specific, e.g. PDH checklist

Structure of PM Processes - Quality Gates, PM milestones, checklists



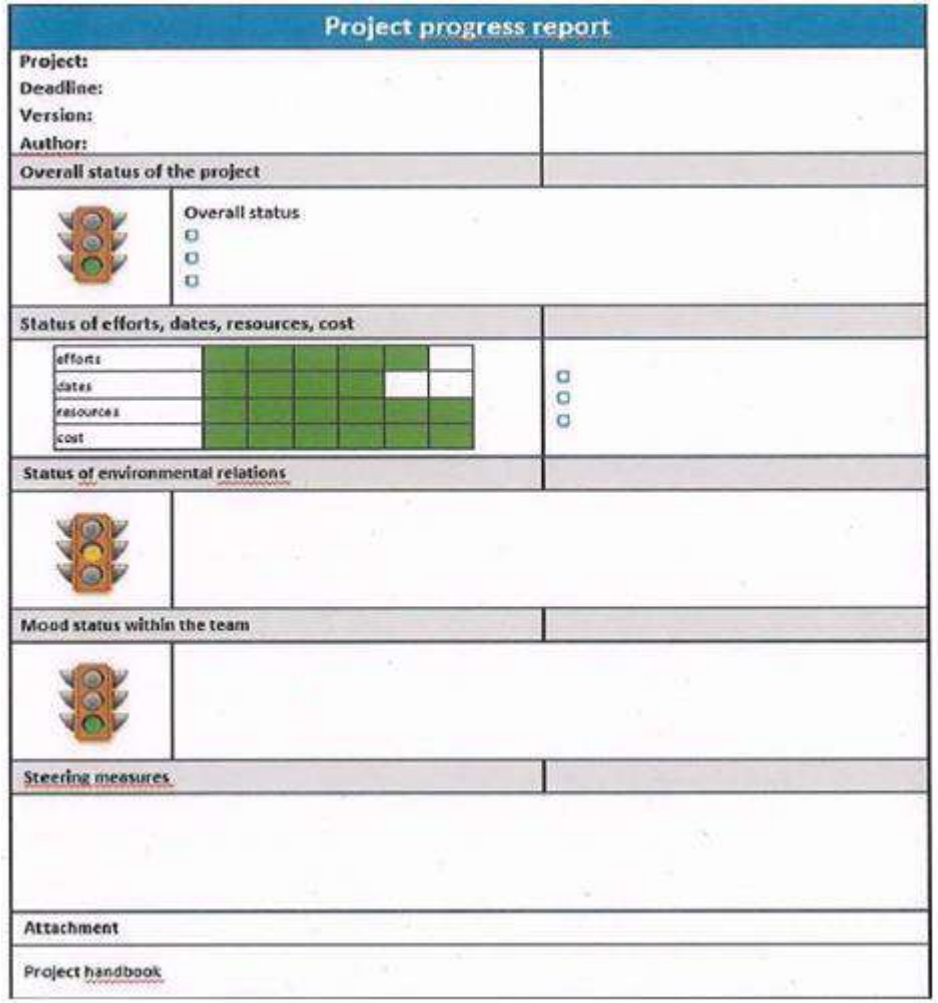
Project Controlling Processes

- Project controlling is recurring, periodic process
- Controlling cycle depends on type, extent of complexity of the project
- Frequency planning done at start up
- Recording of actual state, target actual comparison, planning of management measures in case of deviations, Udating of project plans, Creation of status report

Project Reporting – Format giving concise status of the project

Project Status Report

- After every controlling cycle
- by Project Manager
- Communicated to customer and all stakeholders
- Main Content of status report
  - Overall Status (Traffic light system)
  - Service, deadlines, resources etc.
  - Deviations
  - Necessary measures
  - Necessary decisions



Project progress report

Project:
Deadline:
Version:
Author:

Overall status of the project

Overall status

Status of efforts, dates, resources, cost

efforts
dates
resources
cost

Status of environmental relations

Mood status within the team

Steering measures

Attachment

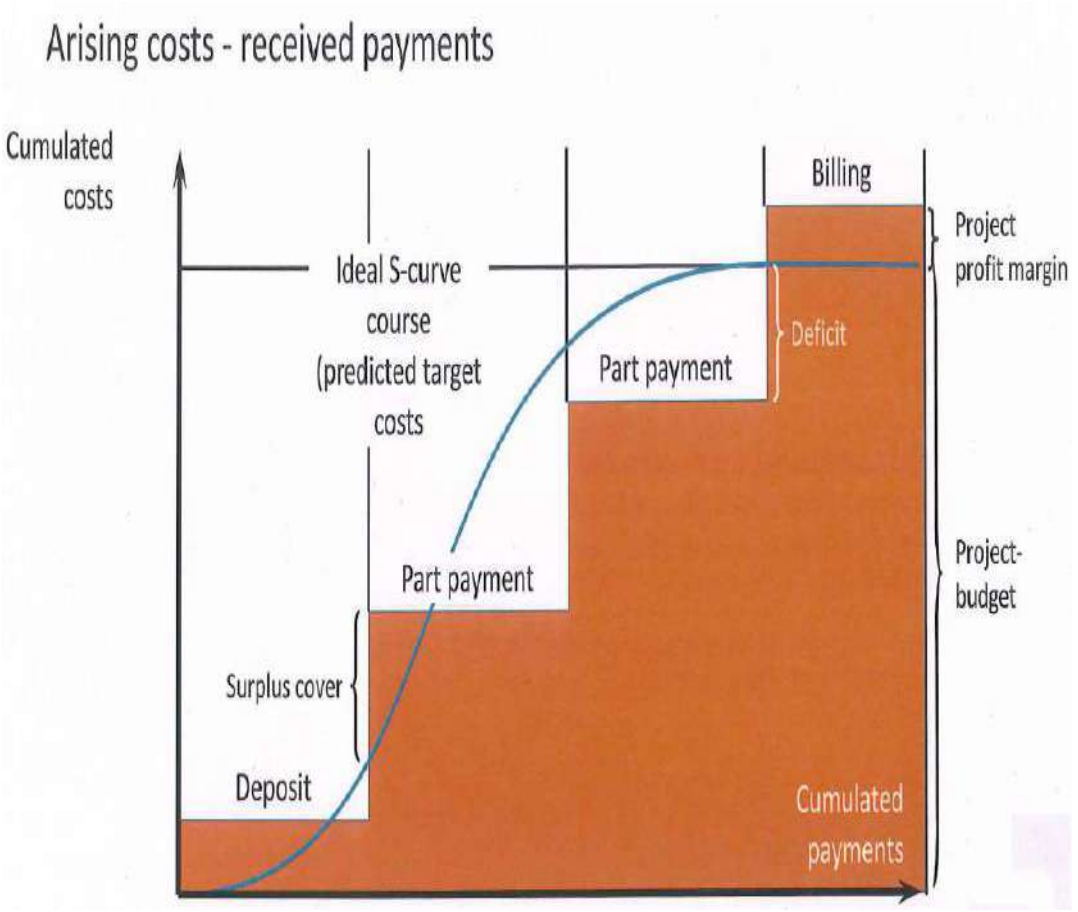
Project handbook

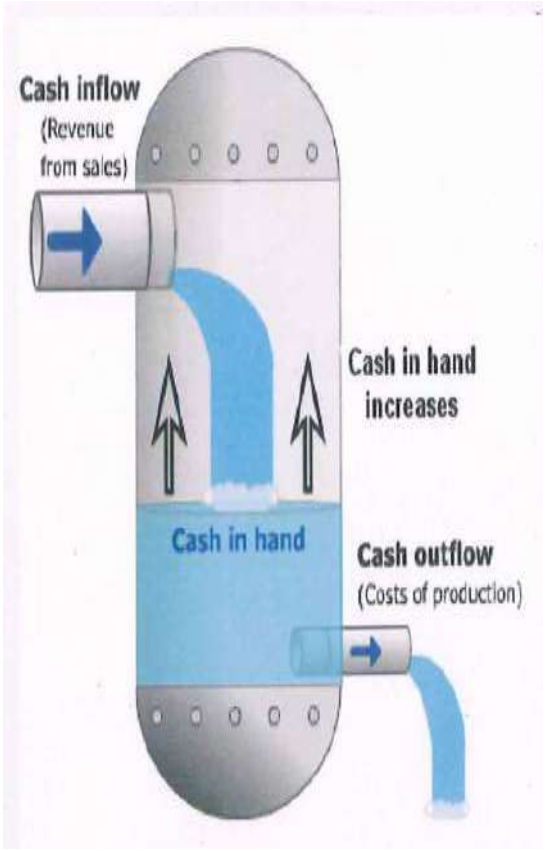
Project Risk Management

The generic risk management process is performed during all the stages of the project

Cash Flow/Payments Terms

- Payment terms can lead to negative cash flow during the project execution. This leads to difficult situations with payment to suppliers.
- Payment terms for erection consortium partner are often not favorable. This leads put pressure on consortium leader.





Special Methodology for Modernization Projects/Revamps

- Lesson learnt from modernization projects
- Checkpoints in the process
- In case of modernization projects/Revamps, the consequences of any problems are far more serious than with the new plant projects.
- SMS has special method module which highlights the key risk sources to which special attention should be paid during such projects.
- Structured Check points/Check Lists are adhered to avoid any last minute problems

Sales

- ***Important passages in a contract,*** e.g., documentation of the actual condition, findings relating to the need for modernization, integration clauses, scope of the revamp, etc.
- **Assessment of the actual condition:** How is the assessment carried out, what needs to be assessed, etc.
- **Scheduling** Consideration of tight time frames for the revamp, required degree of detail, additional activities compared with new plant projects e.g. scrap removal

Order handling

- ***Important principles*** with regard to project organization, quality assurance, manufacturing (e.g., early integration of the erection specialists, interdisciplinary teamwork, team members' experience of revamps, deviations from the SMS standard, etc.)
- **Erection planning and execution, commissioning:** Detailed time and HR scheduling, shut-downs, dismantling and available space to be considered, strict change and claims management, etc.

Challenges for future Project Management

- Time Constraint – Less time available for completing the projects
- Cost Pressure
- Changes in contract during execution
- Quick response for change is required from stake holders
- Quick and constructive response from consultants required
- Delayed closing of projects - increased resource is required
- Lack of communication among various stakeholder.

L1 – The lowest bidder

"It's unwise to pay too much, but it's worse to pay too little. When you pay too much, you lose a little money - that's all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do.

The common law of business balance prohibits paying a little and getting a lot - it can't be done. If you deal with the lowest bidder, it is well to add something for the risk you run, and if you do that you will have enough to pay for something better."

John Ruskin (1819-1900)

Thank you