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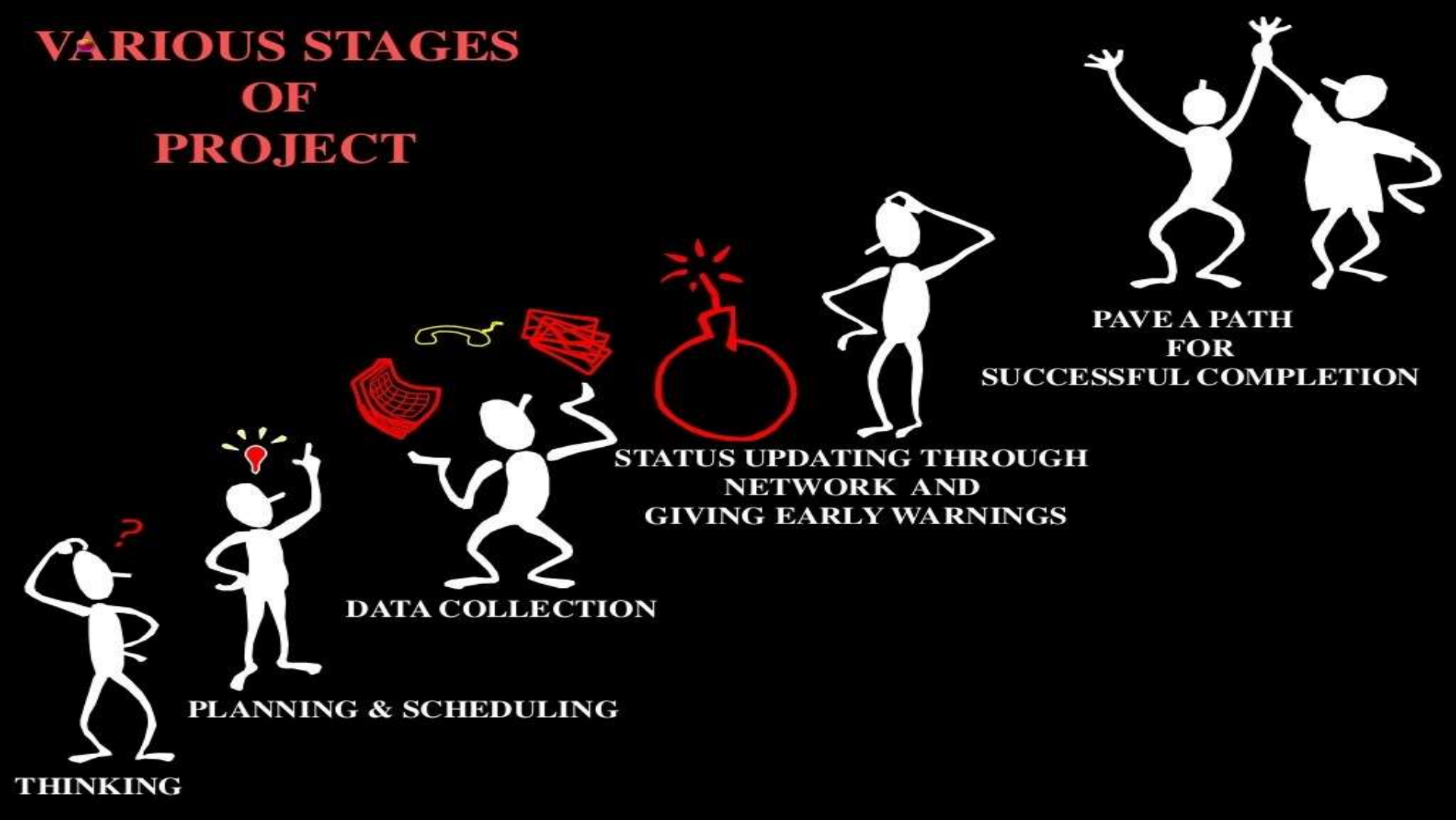
VARIOUS STAGES OF PROJECT



Project :

Converting a vision, a dream or a need to reality.

- ✓ A job that has a beginning and an end (Time)
- ✓ A specified outcome(Scope)
- ✓ At a stated level of Performance (Quality)
- ✓ At a budget(Costs).

Project Characteristics :

- *Temporary* : Has definite Start and Finish
- *Unique* : Product/Service is different in some distinguishing way

Management :
Management is the technique of understanding the problems, needs and controlling the use of Resources, Cost, Time, Scope and Quality.

Project Management :
Application of **knowledge, skills , tools & techniques** to project activities in order to meet **stakeholder** needs & expectations from a project.

Needs : stated part of the project

Expectations : unstated part of the project

"Completion of Project on time within Budget without comprising Quality"

Why do companies use PM?

- To handle projects effectively in an organization.
- To define the project and agree with the customer
- To plan and assess resource needs for the project
- To estimate project cost and make proposals
- To plan & schedule activities in a project.
- To allocate the right resource at the right time.
- To assess risk and failure points and make backup plans.
- To lead a project team effectively and communicate well

Why do people learn PM?

- To explore the latest concepts and techniques of project management.
- To increase value/contribution to the organization. To prove yourself skillful in managing projects.
- To learn a new thought process that helps organized thinking and structured approach.
- To acquire a professional degree/ recognition and increase job prospects.
- Endless possibilities and benefits……..

Project Management Plan :

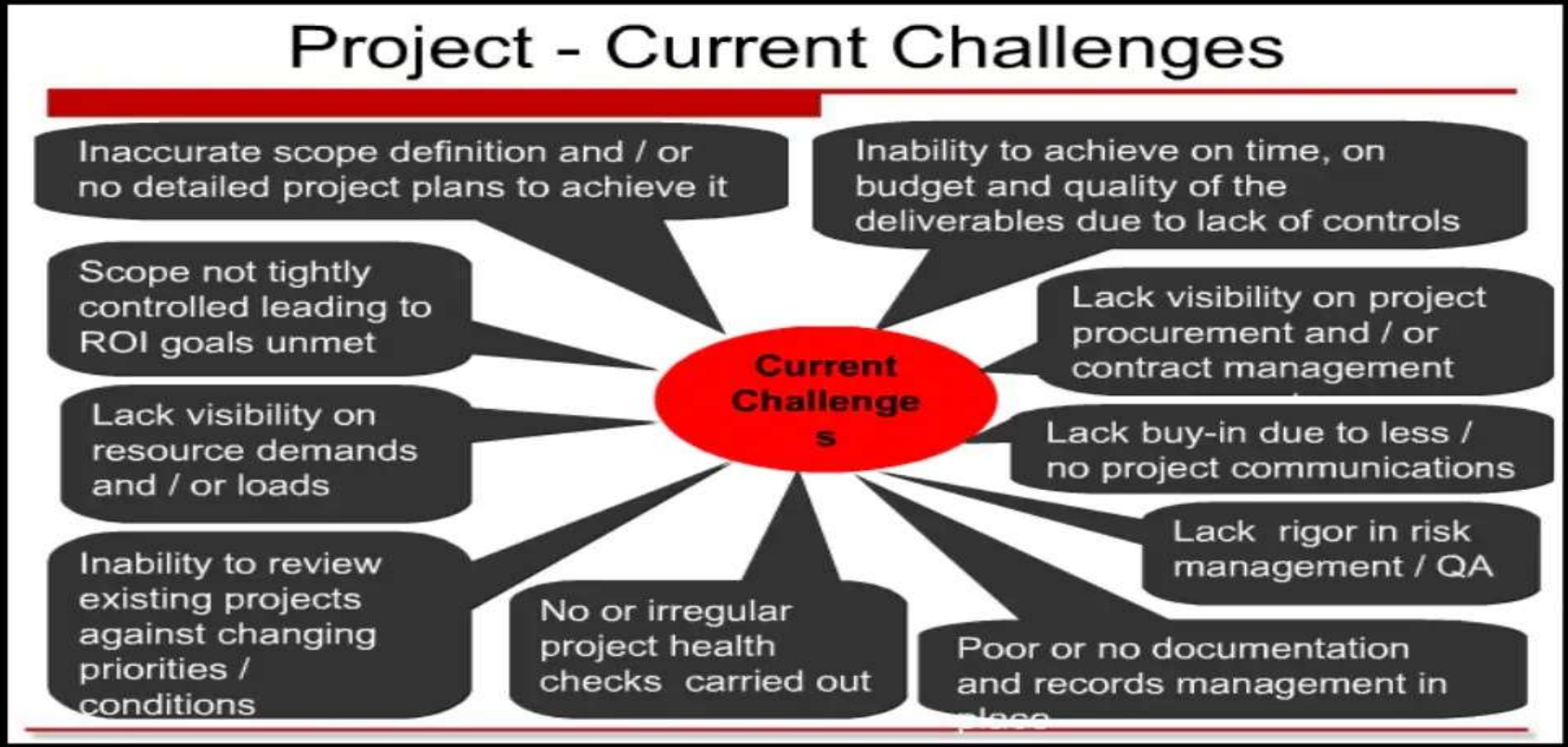
"Tells How work will be done"

The key to a successful project is on the planning. All the detailed planning work for different aspects of the project is integrated into one single plan known as the Project Management Plan.

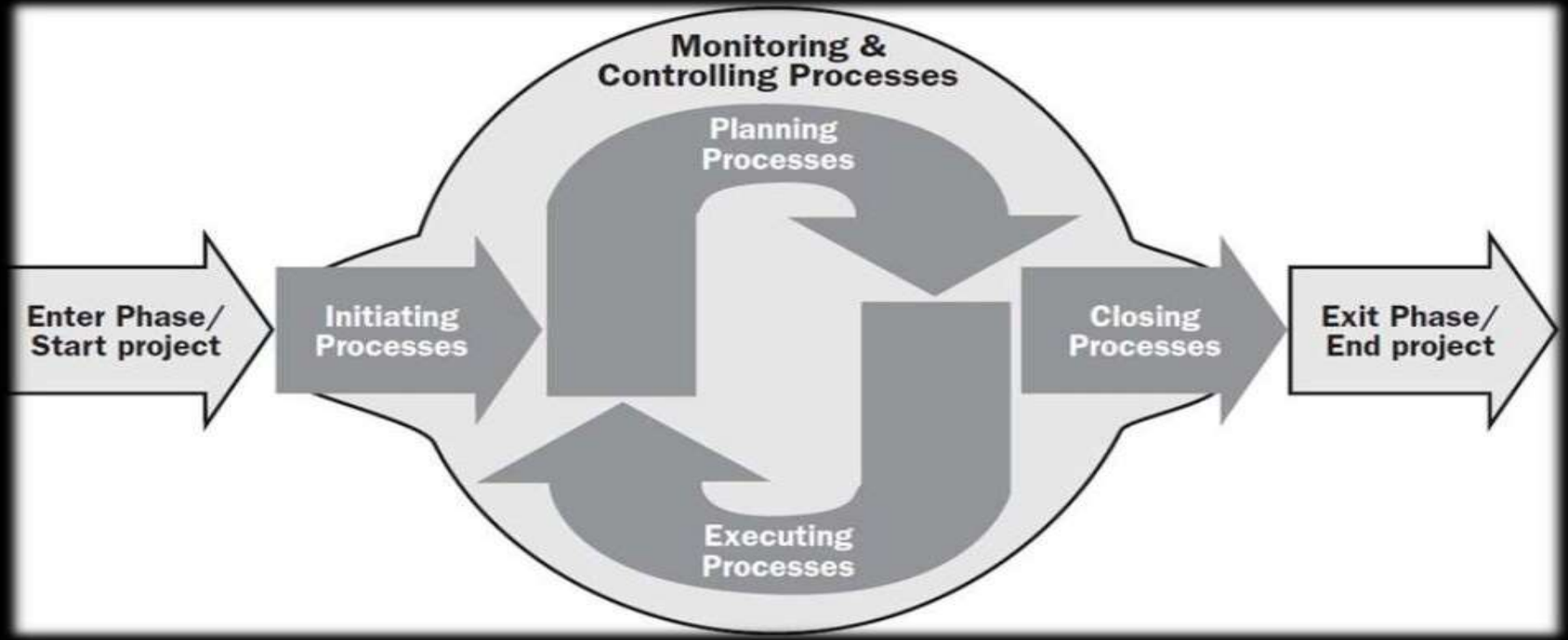
The PM Plan establishes the projects:

Why	• **'Why'** is from the business case
Why & What	• **'Why' & 'What'** are management statement of the success criteria and should be agreed with the project sponsor
Who	• **'Who'** will do the work and stakeholder awareness of the project
When	• **'When'** deals with schedules and phasing for the project
How	• **'How'** which is the project manager vision to implement project from beginning to end
How much	• **'How Much'** covers the costs and budgets of the project.

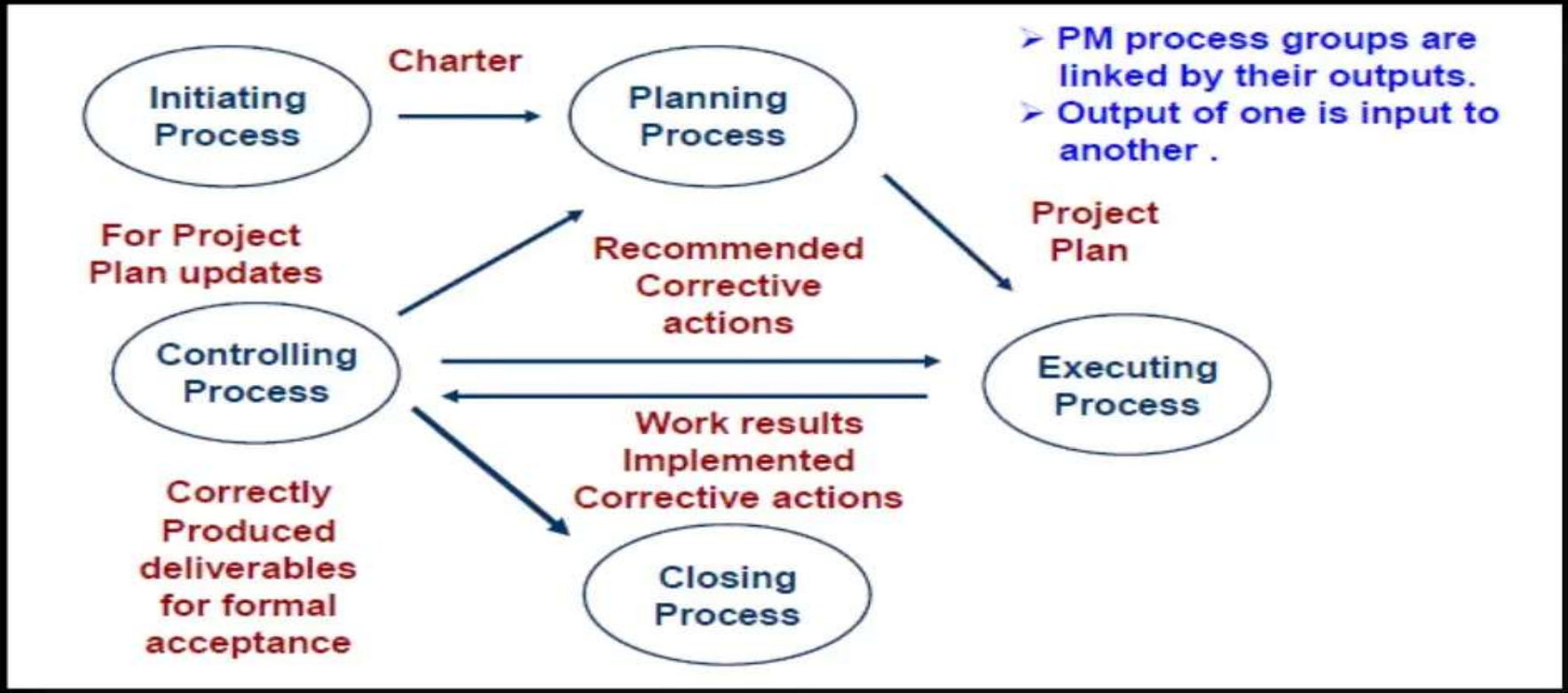
Project Management Overview



Project Management Process



Project Management Process Groups



- PLANNING
- SCHEDULING
- CONTROLLING
- CLOSING

Most important phase of the project management.

Planning is an art and science of converting a set of objectives to realization through a series of steps executed in an organized and predicted way so that there will be less requirement of changes in the plan later on.
The old saying "Plan the work, Work the plan"

- PLANNING
- SCHEDULING
- CONTROLLING
- CLOSING

Scheduling Phase is the process of formalizing the planned activities, assigning the durations, resources and sequence of occurrence in consultation with the team members.

Planning and Scheduling phases are under taken before the actual project starts.

PLANNING

SCHEDULING

CONTROLLING

CLOSING

Controlling phase is undertaken during the actual project implementation.

Project controlling is a mechanism established to determine deviations from the project base schedule, to re-plan & reschedule during implementation to compensate the deviations on the basis of commissioning minima, flow of resources like finance, manpower, equipment & application techniques.

- PLANNING
- SCHEDULING
- CONTROLLING
- CLOSING

Closing phase is the last phase of the project which brings close out of the complete project. Whatever the project requirements are pre-defined, during this phase the total delivery is made and it is accepted by the customer.

Maximum conflicts can arise in the project during this phase between those who have worked to deliver the outcome (contractor) and those who are accepting the results of the work (customer).

PM Knowledge Areas

Project Integration Management

- **Project Integration Management** supports various elements of project management which are identified, defined, combined and coordinated.

  - Develop Project Charter
  - Develop Project Management Plan
  - Direct and Manage Project execution
  - Monitor and Control Project Work
  - Perform Integrate Change Control
  - Close Project or Close

Project Integration Management

Project Charter :

- ✓ DOCUMENT that formally authorizes a project.
- ✓ Provide information about internal and external parties involved in and affected by the project.
- ✓ Documenting initial requirements that satisfy the stake holders' needs and expectations.
- ✓ ISSUED by a project initiator or sponsor, external to project organization, at a level appropriate to project funding.
- ✓ EMPOWERS the project manager to apply resources to project.
- ✓ Summary level Milestone schedule and Summary level Budget.

Project Scope Management

- **Project scope management** includes the processes required to ensure that the project includes all the work required, and only the work required to complete the project successfully

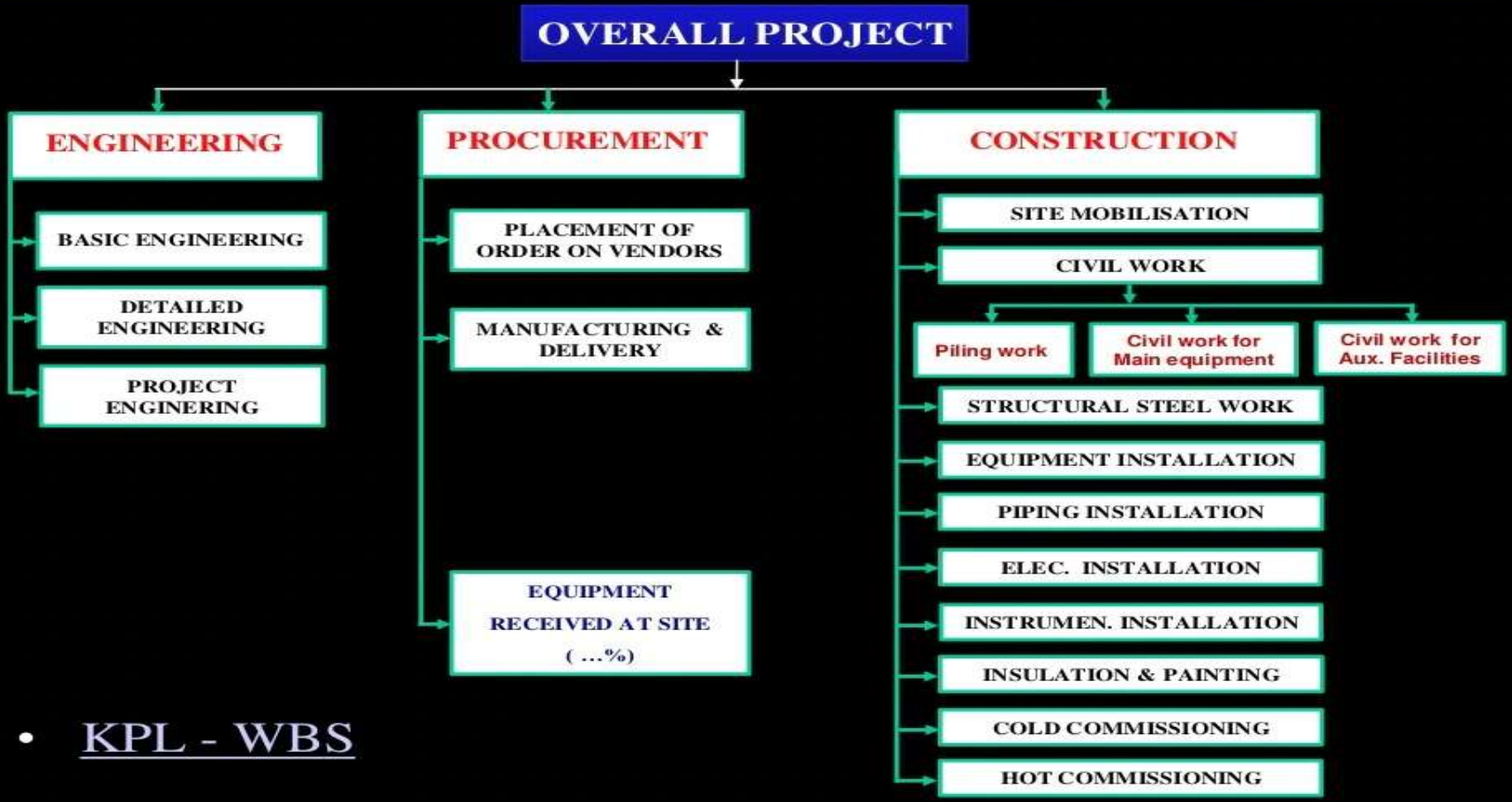
- Collect requirements
- Define Scope
- Create WBS
- Verify Scope

Project Scope Management

WBS – Work Breakdown Structure :

- ✓ A deliverable-oriented hierarchical decomposition of work to be executed by the project team to:
  - •create required deliverables
  - • accomplish project objectives
- ✓ WBS organizes and defines the total scope and represents specified in the current approved Scope Statement!
- ✓ Process of subdividing project deliverables and project work into more manageable components.
- ✓ Lowest level of WBS is work package can be scheduled, cost estimated, monitored, and controlled.

TYPICAL WBS OF A PROJECT



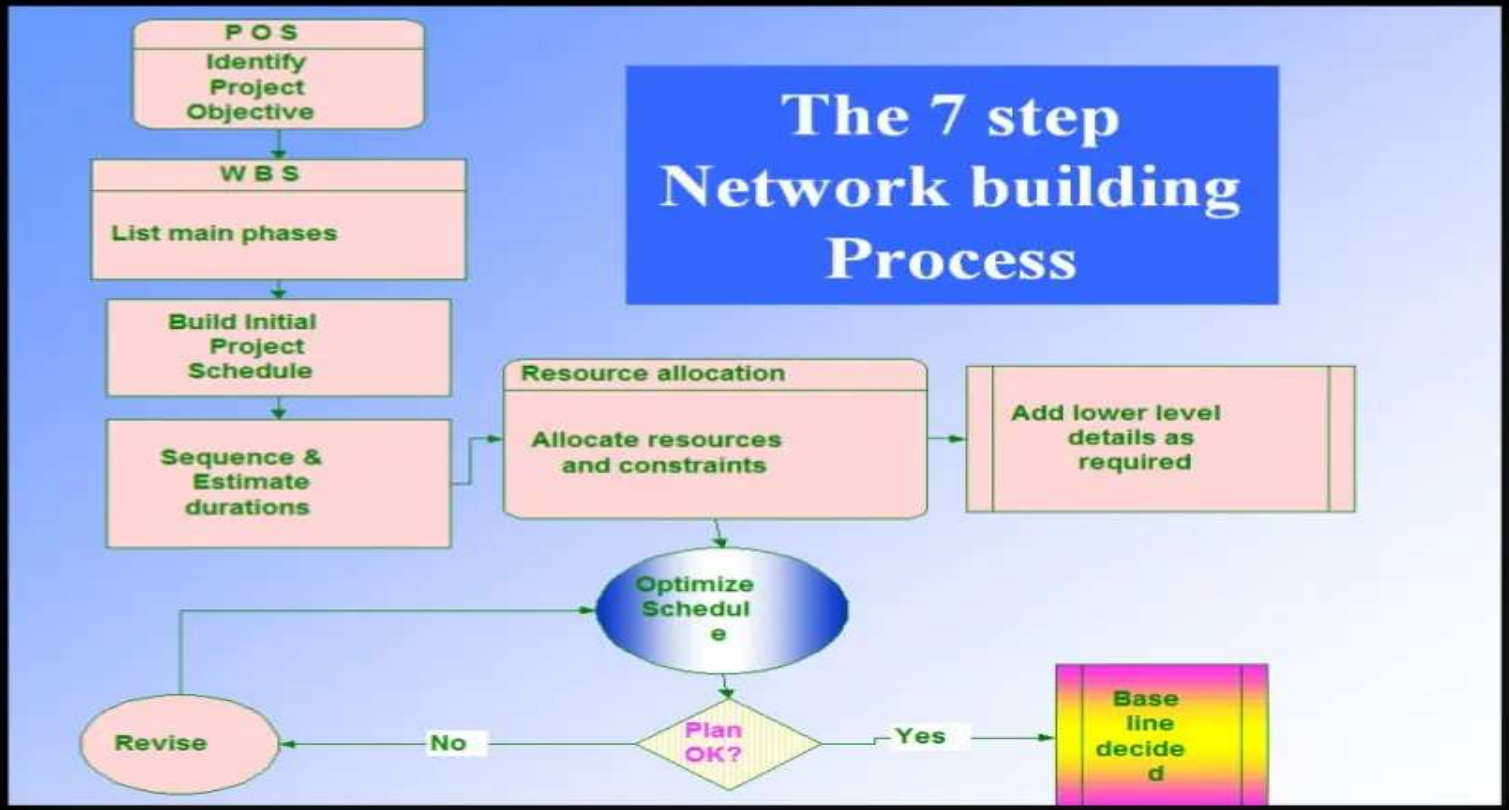
- KPL - WBS

Project Time Management

- Project Time Management ensures the timely completion of the project.

- Plan Schedule Management
- Define Activities
- Sequence Activities
- Estimate Activity Resources
- Estimate Activity Durations
- Develop Schedule
- Control Schedule

Project Time Management



Project Time Management

- ✓ Schedule once finalized is set as a baseline
- ✓ Progress of work are tracked against the baseline
- ✓ Current progress is arrived from various (Engineering, Proc, Manufacturing and Construction) Trackers developed for the purpose. These schedules are called current schedules
- ✓ Analysis and forecasting is done in progress reports.

Schedule using MS Project

Schedule using Primavera (P6)

Engineering Tracker

Manufacturing & Supply Tracker

construction tracker

Project Cost Management

- Project cost Management includes the processes involved in estimating, budgeting, and controlling costs so that the project can be completed within the approved budget.

- Estimate cost
- Convert it into budget
- Load the cost into schedule
- Perform earned value (EV) analysis
- Perform estimate at complete (EAC)
- Administer changes
- Control cost

Project Quality Management

- Project Quality Management ensures the project will satisfy NEEDS for which it was undertaken.

  - Plan Quality
  - Perform Quality Assurance
  - Perform Quality control

What is Quality?

- ✓ Conformance to specifications
- ✓ Fitness for use

Project Quality Management

Plan Quality Techniques

- Cost benefit analysis
- Cost of quality
- Benchmarking
- Design of experiments
- Seven quality tools
- Statistical sampling

Perform Quality Assurance Techniques

- Quality management and control tools
- Quality audits
- Process analysis

Perform Quality Control Techniques

- Statistical sampling
- Inspection
- Seven quality tools and techniques
  - √ Cause and effect diagram
  - √ Flowcharts
  - √ Check sheets
  - √ Pareto diagrams
  - √ Histogram
  - √ Control charts
  - √ Scatter diagram

Project Human Resource Management

- Project human resource management includes the processes that organize, manage, and lead the project team and to make most effective use of people involved in the project.

  - Develop Human Resource Plan
    (Role & Responsibility, Organization chart, Staffing Management Plan)
  - Acquire project team
  - Develop project team
  - Manage project team

Organization Chart

Project Human Resource Management

Project Communications Management

- Project communication management include processes required to ensure timely and appropriate generation, collection, distribution, storage, retrieval, a nd ultimate disposal of project information.

- Identify Stakeholders
- Plan Communication
- Distribute Information
- Manage Stakeholders expectations
- Report Performance

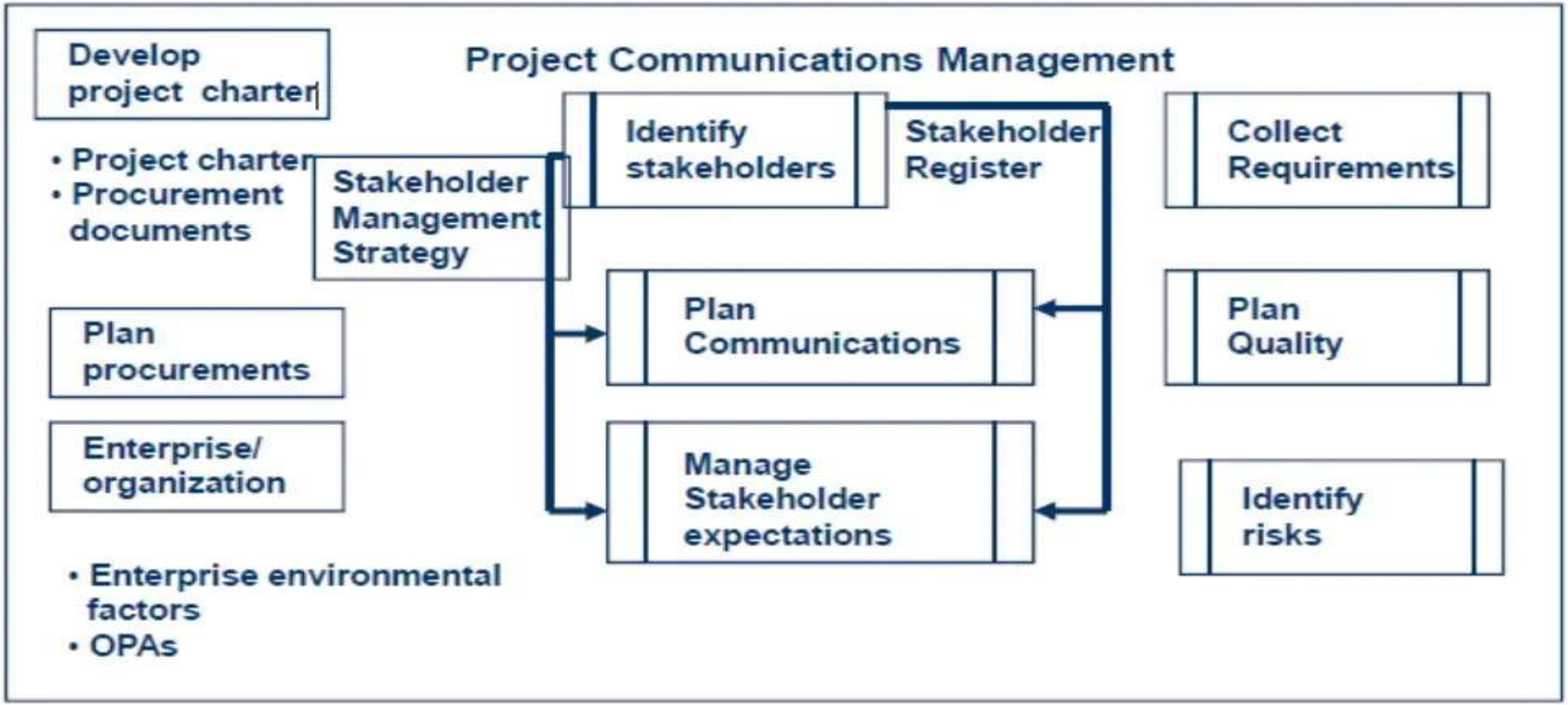
RACI

Project Communications Management

Project Stakeholders :

- ✓ Customers/users
- ✓ Sponsor
- ✓ Portfolio managers/portfolio review board
- ✓ Program managers
- ✓ Project management office
- ✓ Project managers
- ✓ Project team
- ✓ Functional managers
- ✓ Operations management
- ✓ Sellers/business partners

Project Communications Management



Project Risk Management

- Project Risk Management is concerned with identifying, analyzing and responding to project risks.

- Plan Risk Management
- Identify Risks
- Perform Qualitative Risk Analysis
- Perform Quantitative Risk Analysis
- Plan Risk responses
- Monitor and Control Risks

Risk Register

Risk Assessment → Risk Control → Risk Ranking → Risk Mitigation

Project Procurement Management

- Project Procurement Management is needed to acquire material, goods and services outside performing organization to meet project scope.

- Plan Procurements
- Conduct Procurement
- Administer Contracts
- Close Procurement

Project Change Management

- Projects generally don't go 100% as planned resulting into variations from plans in scope, time, cost, quality

- Change control boards (CCBs)

Project Document Management

Document management is very important (but largely ignored) aspect of project management

- This can be a sophisticated software or simple excel sheets depending on the organization strategy
- Once adopted its use should be fully exploited viz. 100% documents should pass through it and document reviews should be done as per the matrix defined
- MIS of document status be generated at the end of period

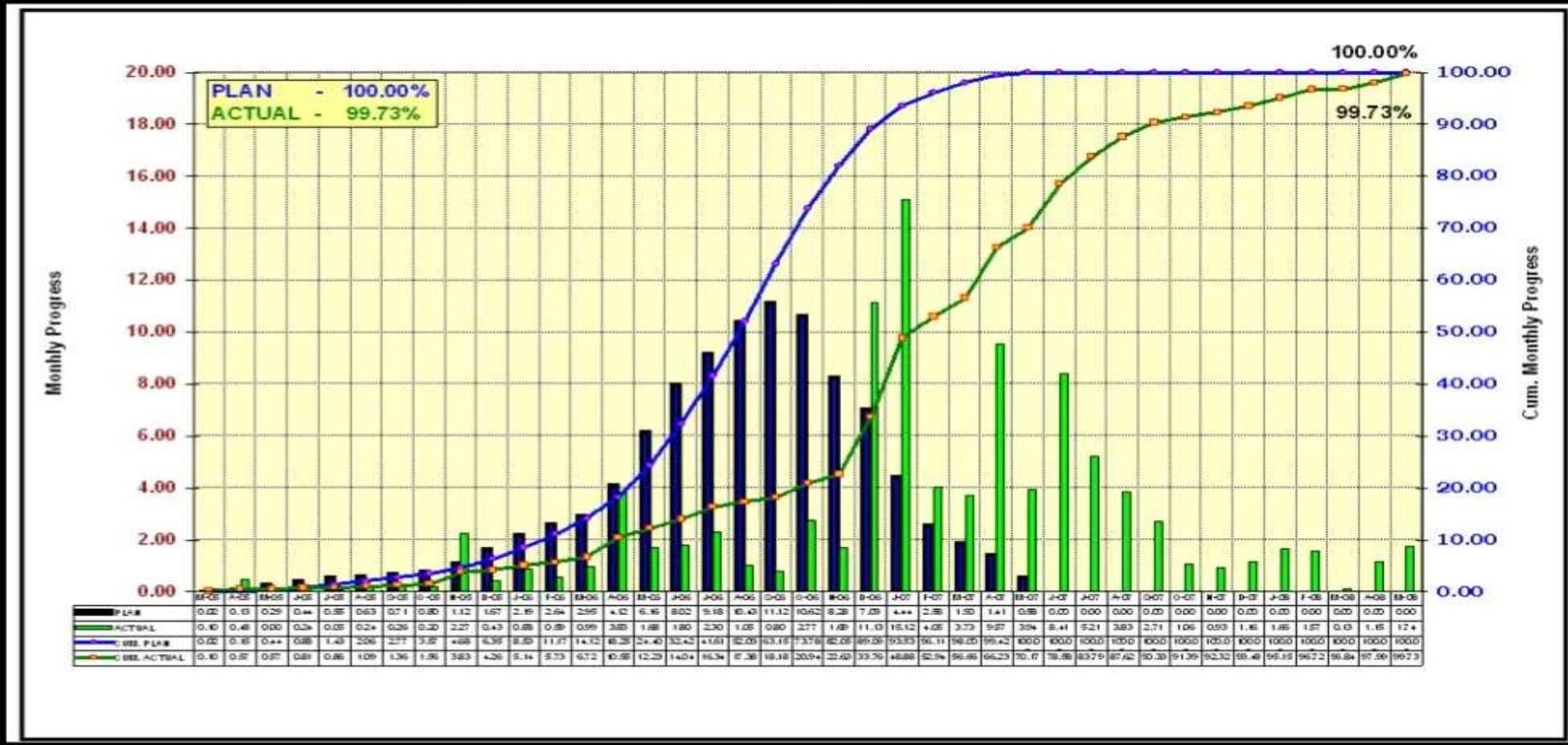
Project Document Management

- Proper DMS ensures right information to all stakeholders at all times
- Avoid using obsolete drawings and designs for execution
- Serves a very good engine for future use of project data
- Example of a simple document management system

Document control log

S-Curve in Monthly Progress Report

Progress reporting is done through different formats and curves.



What is "S Curve"

S- Curve is the graphic display of cumulative progress plotted against time.

Ideal S - Curve is a sinusoidal curve based on the following formulae:

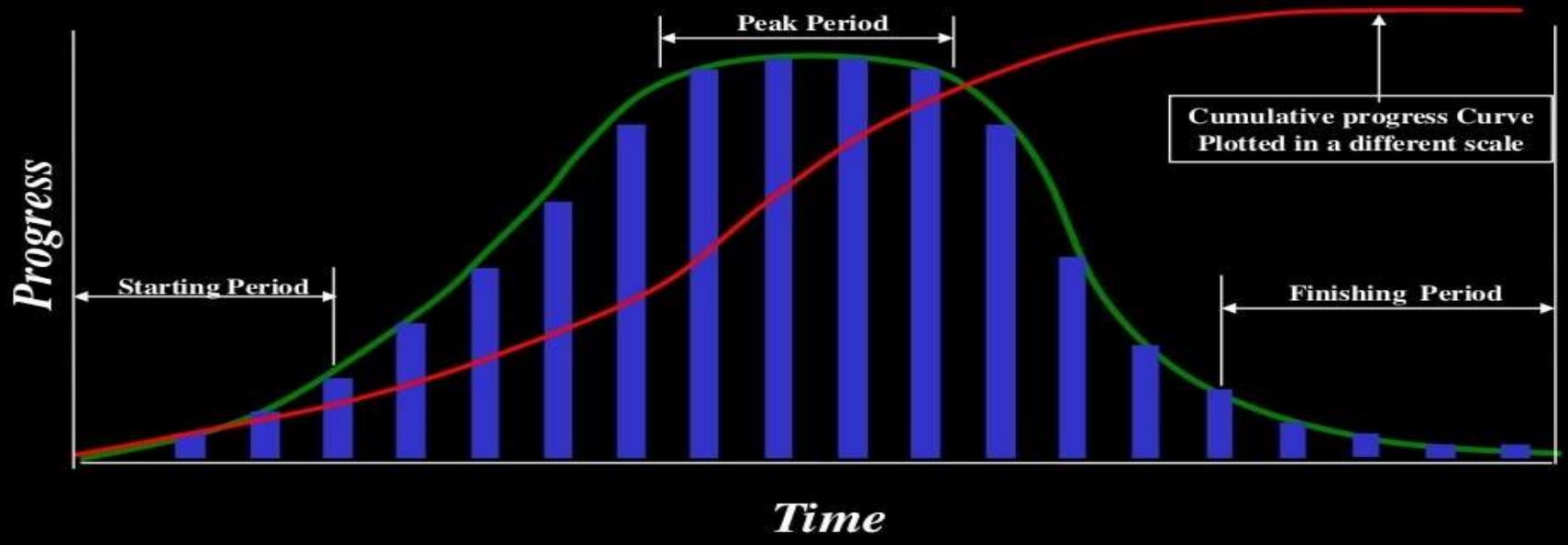
$$Y = [1 - \sin(x/x_n * 180 + 90) * 50]$$

Y – Percent progress
x – Period at which s-curve value required
x_n – Total period

The name is derived from the 'S' like nature of the curve.

S-Curve

Progress distribution curve



It is an ideal distribution curve. Depending upon the various guiding factors it may vary.

"S Curve" or Project Life Cycle