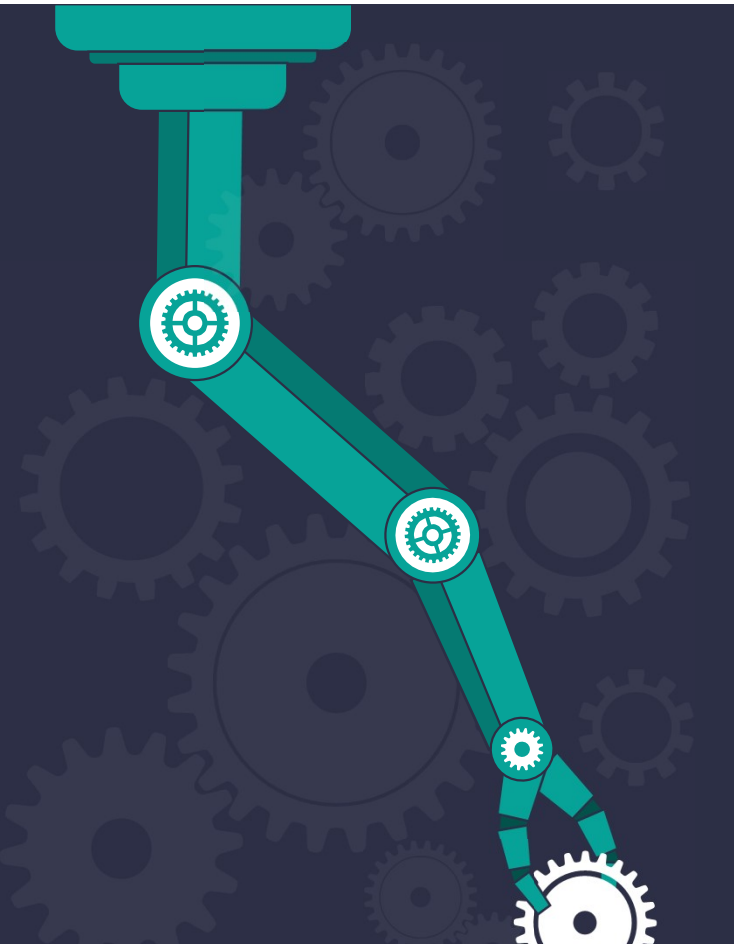
Presentation Link:
https://drive.google.com/file/d/1RFnqMfiwGRI8pMX4XccMuk6dPLg21LDa/view?usp=sharing

IMPLEMENTING AI BASED SYSTEM TO RECYCLE COAL ASH RESIDUAL FOR NSW CONSTRUCTION INDUSTRY

INFO6007 – Project Management in IT - Group 47



GROUP 47

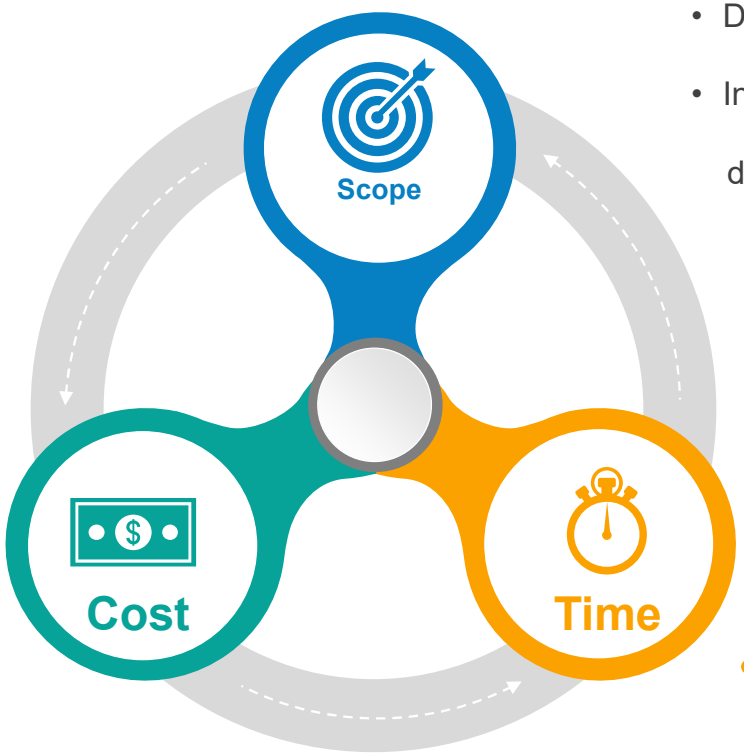
Outline:

Project Charter & Scope

Description	Date
Identify Stakeholders	January 4, 2021
Functional Specification	January 12, 2021
Requirements Discovery	January 18, 2021
Design and Architecture	February 26, 2021
Development	May 12, 2021
System Integration Testing (SIT)	June 7, 2021
User Acceptance Testing (UAT)	June 28, 2021
Documentation & Training	August 10, 2021
Project Closure	August 17, 2021

Project Cost

- $842,240 for Software Development
- $90,424 for QA and Testing



Project Scope

- Develop an AI model to detect quality of coal ash
- Integrate AI model with Ecommerce platform to detect coal ash type and sell in bulk

Project Time

Project Start Date January 4, 2021

Project End Date August 17, 2021

Cost Modelling

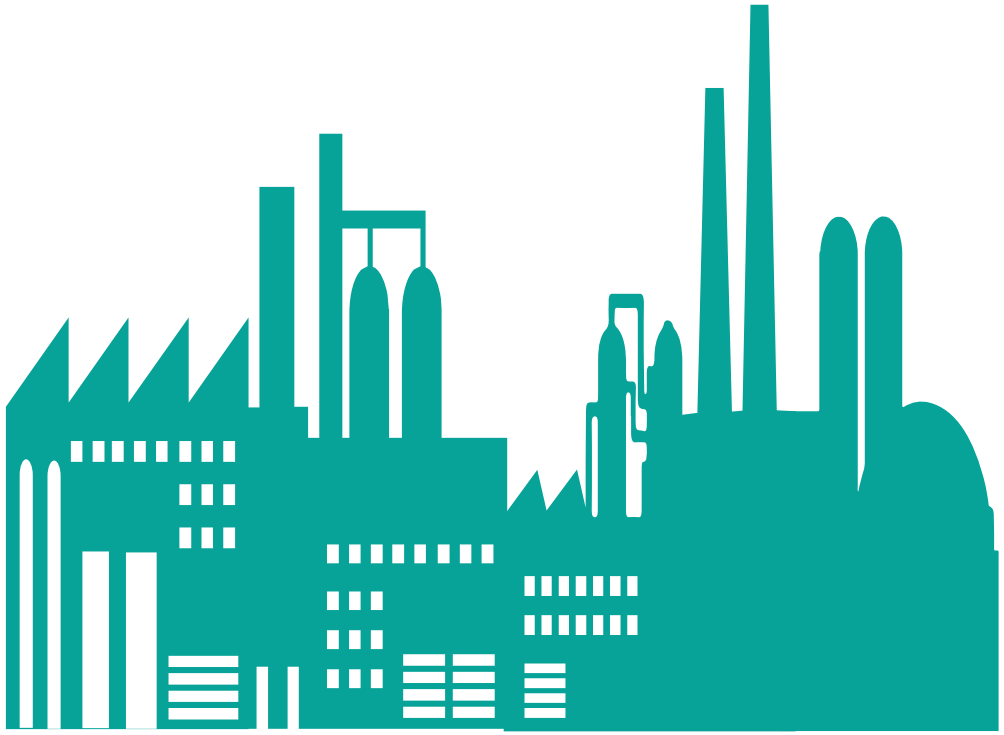
Direct Project Costs	**$1,158,520**
Indirect Project Costs	**$1,022,516**
Reserves	**$388,850**
Cost Breakdown	Development & QA WBS Level 3
Detailed Budget Table	WBS Item / Category
Cost Baseline	Cost Spread over Project Duration

Literature Review..

Research

Ash Development Association of Australia (ADAA), is responsible to conduct the research and management of the Coal-Ash resources.

According to the ABC new castle, “every year Australian coal-fired power stations produce 12 million tones of ash from burning coal & out of those ashes, Australia is only able to utilize 18% of it”. The rest of the ashes get to dispose of in the ash ponds or environment.



Content Here

Due to gap between producers and consumers, tonnes of coal ash gets wasted every year, Despite of all the efforts made by Australian ash management.

Content Here

Also there is not even a single website, application or any platform available in order to resolve the issue.

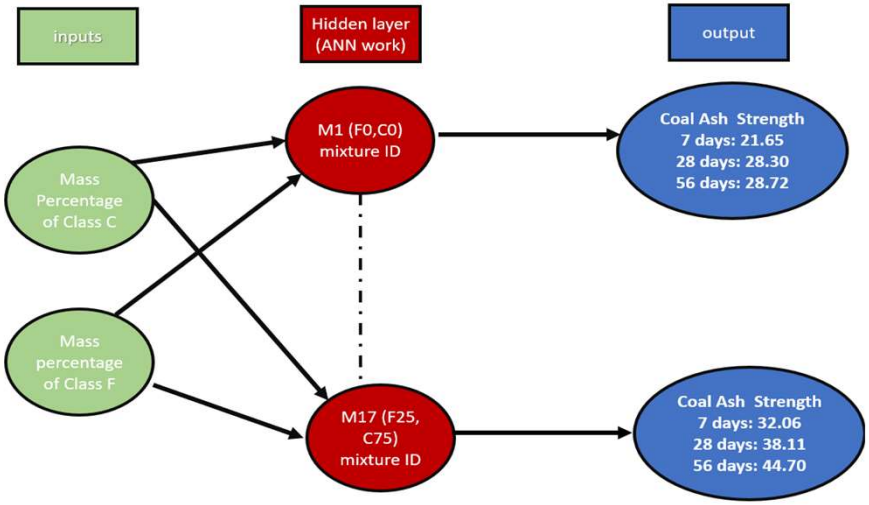
Content Here

Hence, To overcome the issue, we have created a website that will resolve the Coal-Ash utilization’s problem by using an AI algorithm. Basically, we have created a platform where the consumer and the producer could meet up, and provide information regarding availability, strength, price and can initiate the business. We are going to create an online platform where the consumer can check the compressive strength of the Coal-ash and the kind of coal ash required.

Working of Website

A mixture is created based on the different percentages of different classes of coal-ash and after that it is labeled with a unique mix ID.

The consumer selects the mass percentage as a input for the neural network model and predicts The compressive strength of different mixture in three stages: 7 days (early strength), 28 days & 56 days (late strength).



Benefits

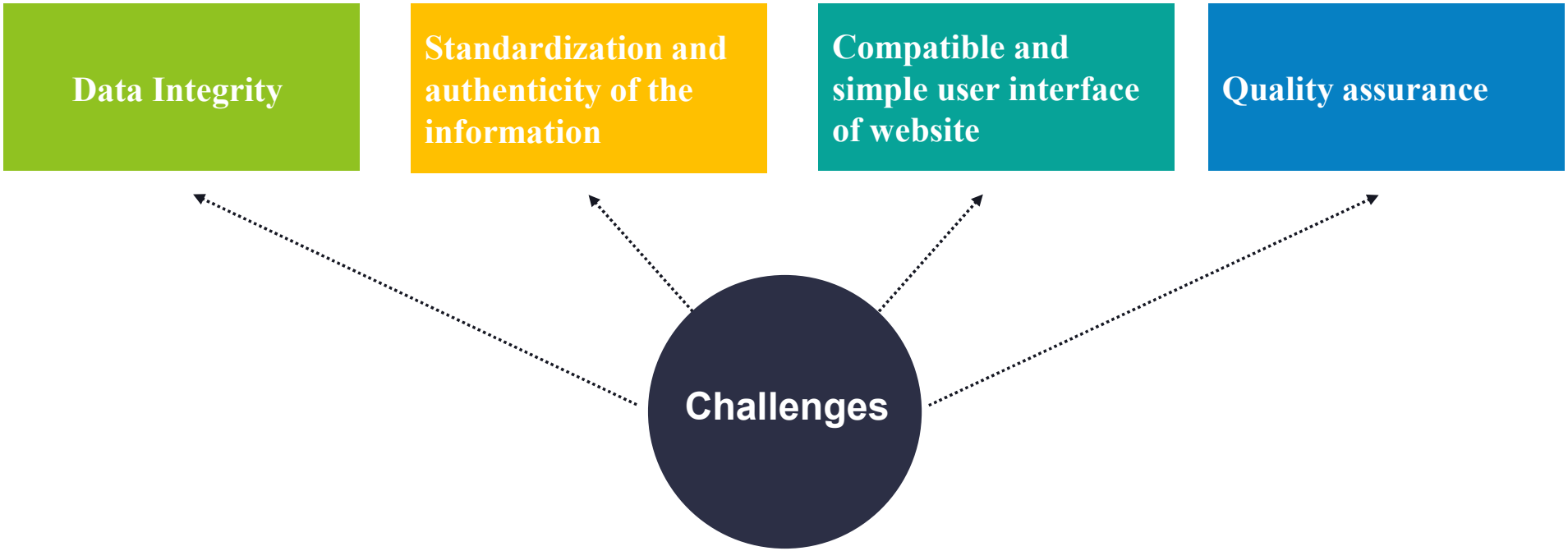
Minimize the air and water pollution

Improves the quality of drinking as well as pond water

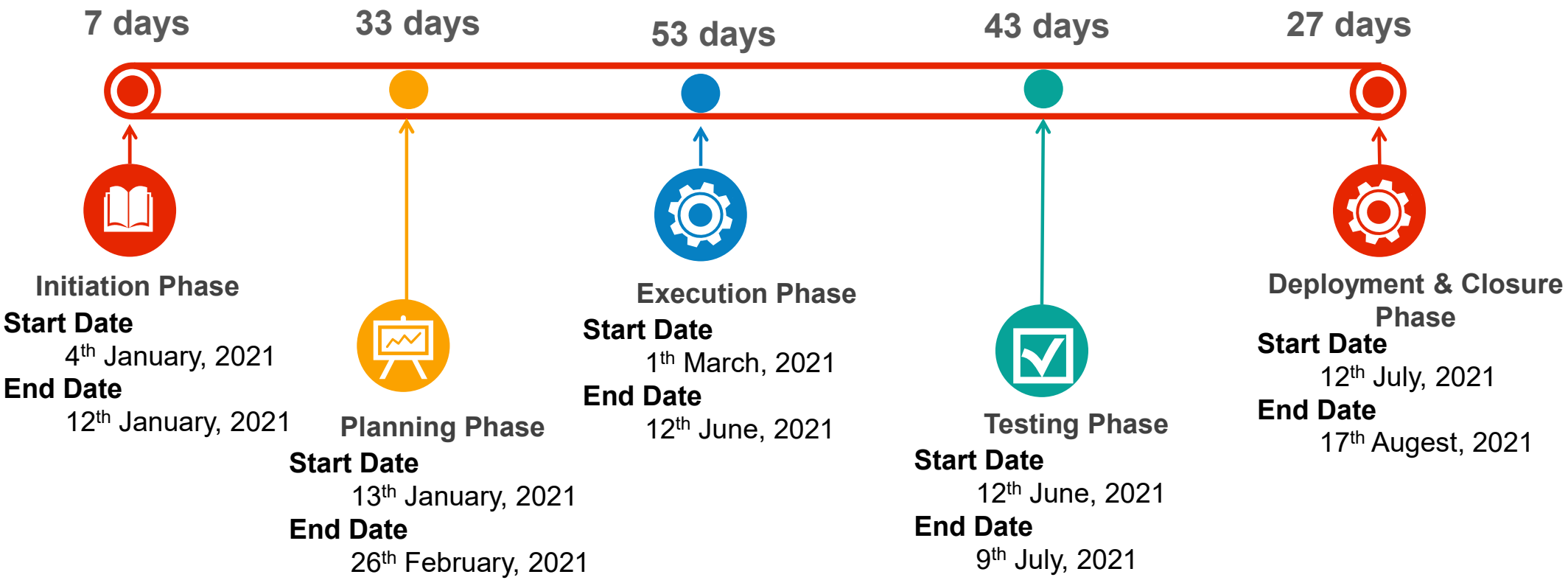
lower the cost of production of concrete as well as optimizes the sand demand & reduce the water consumption in the concrete

Structure & Design sustainability increase

Save the lives of Aquatic animals


Data Integrity
Standardization and authenticity of the information
Compatible and simple user interface of website
Quality assurance
Challenges

Timeline of project



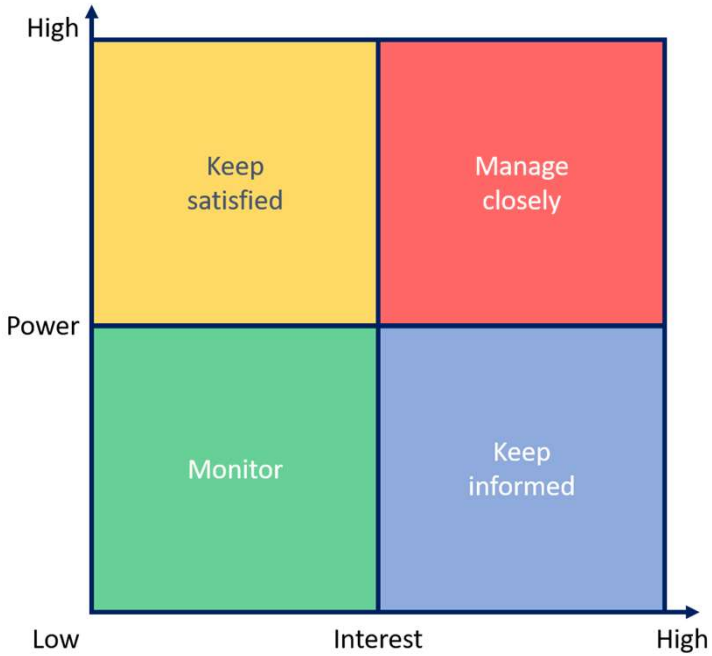
Stakeholder Register

Australian Building Codes Board

Keep Satisfied

Environmental Organizations

Monitor



Supplier & Buyer of coal ash

Mange Closely

Project Manager

Manage Closely

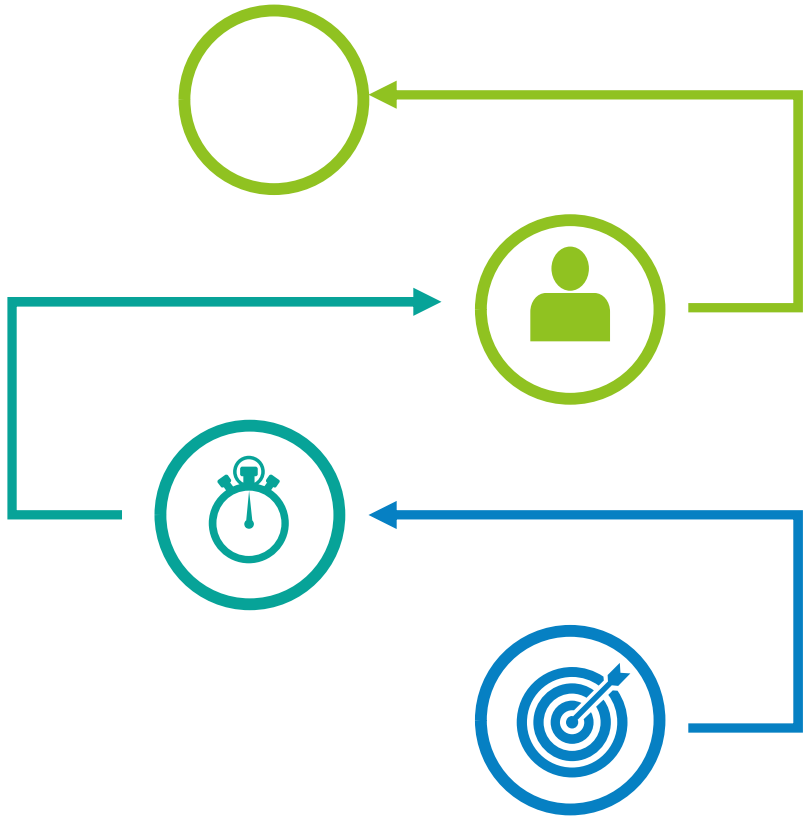
Development Lead

Keep Informed

Implementation manger

Keep Informed

Communication Matrix



Communication owner and Audience

Set Responsibilities and Roles

Communication Frequency

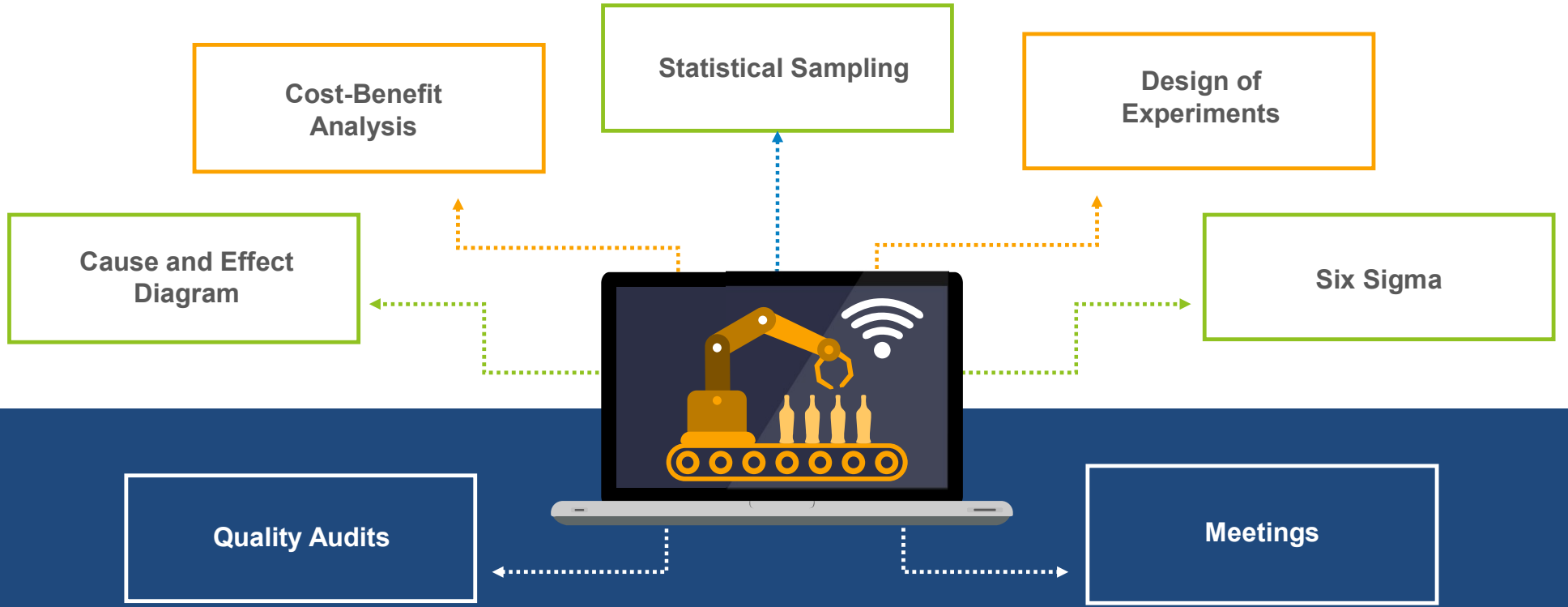
Efficient use of Time

Communication Objective

Key Element in the communication Matrix

QUALITY MANAGEMENT

Quality management will include quality planning and control practises, with the goal of enhancing the project's monitoring and control standards. Three project management constraints, which are time, expense, and scope, are closely correlated with project quality.



Tools and Expectation

Quality Assessment of the project

- **Process analysis** : analysis of systems reveals weaknesses in procedure improvements.
- **Check list** : a checklist is a systematic system that typically involves an element to verify certain steps.
- **Audits** : an audit is an autonomous, organized mechanism that decides whether project activities are compliant with organizational policies, processes and procedures
- **Problem solving** : problem solving requires solutions to obstacles and issues.

Project quality standards

ISO/IEC 27001:2013

31000

9001:2015

ISO / IEC 9216

Website deliverables
Website home page, search page and results, Profile page.

Website content deliverables
Recommendation system with algorithms for Coal ash

Web content management system
System to visually redesign the site for content authors and site managers

User account provisioning
Buyer will create a user account

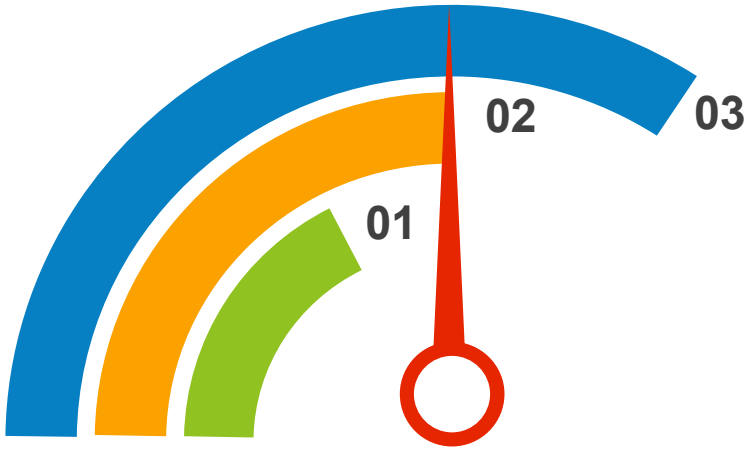
Feedback and review systems
User recommendations and feedback forms/surveys.

Site provisioning
Network firewall settings and network loads

Risk Management

Objectives:

- Discover underlying issues of the project
- Avoid/reduce impacts from negative risks



Procedures

01 **Identify potential risks related to the project**

risk breakdown structure

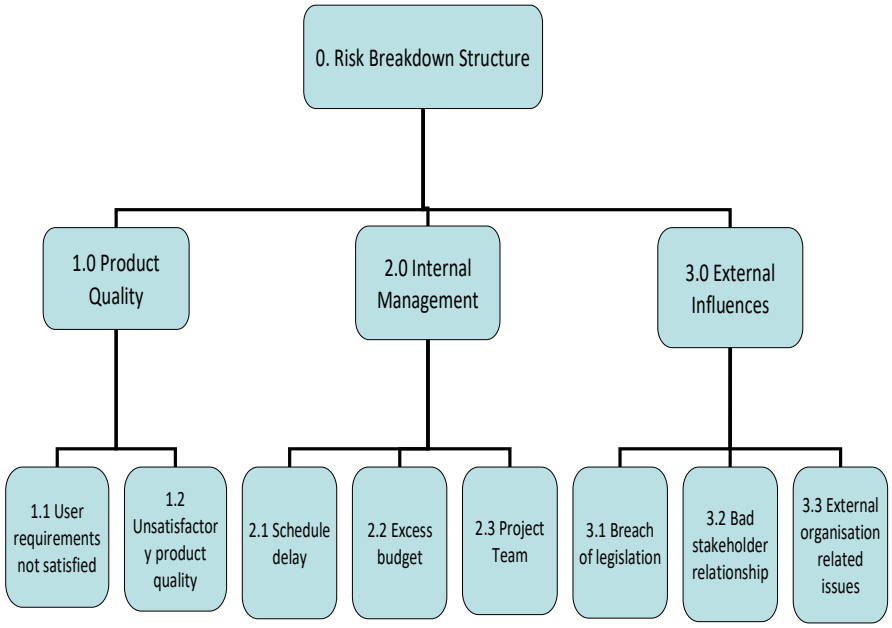
02 **evaluate the possible impact of each risk**

impact level and probability of occurrence

03 specify the corresponding preventive and corrective **controls.**

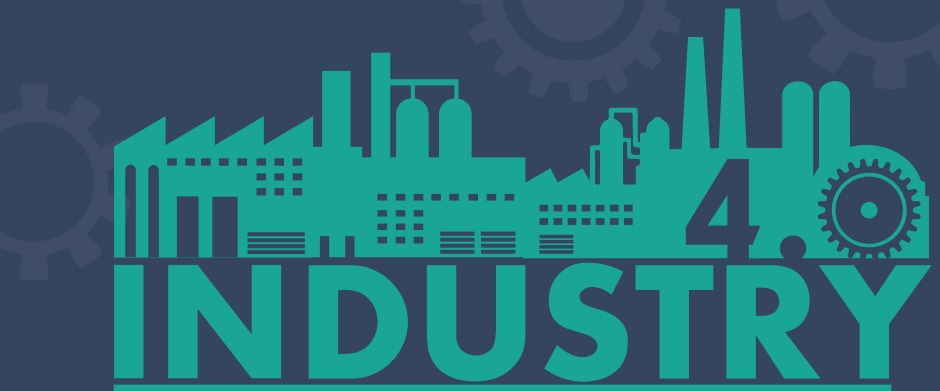
Risk Management

Risk Breakdown Structure (level 2)



Risk Impact/Probability Matrix

	Impact		
Probability	Low	Medium	High
Rare	3.3.3	2.3.1 2.3.2	3.1.1 3.1.2 3.3.2
Normal		2.1.2 2.2.2 3.3.1	1.2.1 1.2.2 2.3.3 3.2.2
Frequent		2.2.1	1.1.1 1.1.2 2.1.1



Thank You

Any Questions ?