

IT department is the backbone of any organization.

The IT team will be under direct command of the CTO. The team will include 3 engineers, 1- Data Engineer, 1- Data Analyst, 1 IIOT expert and 2 support technicians.

The IT department has will look after three major areas of concern, which include governance of the company's technological systems, maintenance of the infrastructure, and functionality of the systems overall.

The IT department will look after the following

- Datacentres
- CRM customer relationship management
- MIS management information system
- AI and ML
- Cybersecurity
- Cloud Based ERP
- IT policies
- Website
- IT Communication
- Networking setup and management
- Hardware support & Software support
- Backup System
- Disaster Recovery System
- Automation
- IIOT
- Analytics Department



We will create a META SMART Factory with state of art infrastructure and IT utility.

The main role of IT department will be monitoring and control of manufacturing process. We will be looking after manufacturing support applications which will deal with preparation for actual manufacturing and post manufacturing operations.

IT department will carry out the task of integrating a platform which will be directly interfaced with manufacturing apparatus for monitoring and control functions in manufacturing process.

The platform will have built-in specifications with help of which suitable action will be initiated by computer to regulate the process.

The Process

Our company will receive bins full of waste which the municipality will primarily segregate from waste dumping grounds. Our trucks with pre-installed GPS will be deployed to collect the waste from the pre-defined location, which will be located on a map, and an optimized route will be planned for our garbage trucks to go and collect waste and bring it back to our locality.

The garbage picking trucks will return to our facility, where the segregated waste will be again sorted and segregated initially it will be carried out by labours and then by automated sorting machines using AI-enabled Computer Vision, an intelligent image processing Tool, just in case some unsegregated waste has made its way into our bins.

The machines will reduce manual labour and will make processes much more efficient.

First, the organic waste again will be separated for composting. We will check every day how much composted manure is in demand by farmers around Bhopal and will accordingly send the required quantity.

Now the inorganic waste will be segregated and sorted into different bins such as plastic-paper and related waste bin, rags & clothes bin, glass bin, metal waste bin, e-waste bin, rubber, and tire waste bin.

Plastic will further be segregated into recyclable and non-recyclable.

Recyclable plastic waste with paper and related waste will be recycled to create yarn which will be used to produce different apparel.

The recyclable Plastic will be cut into smaller pieces. These fine pieces will be washed thoroughly and then sanitized to clean them from germs and other micro-organisms. It will be left to dry under the sun. After this process, we will boil and strain it, passing it to the next station to produce yarn. This yarn will be sent to rollers where rollers will create yarn rolls. We will send These rolls to the weaving workstation, where the Final cloth will be made. This cloth will be used to create different apparel such as t-shirts, pants, jeans, etc.

All the waste that cannot be recycled will be used to produce ethanol (fuel), and some parts of it will be used for cement block production, which will be used in the construction of Roads.

The entire Facility will be under CCTV and high-tech drone surveillance.

Datacentre

As a manufacturing and recycling plant we will be producing a huge amount of valuable data. This data needs to store so that the analytics team can access this data and try to get some useful insights. So the IT department will create a data centre where all the data generated from manufacturing process to customer feedback will be stored.

CRM – Customer Relationship Management software

The task of procuring a CRM software, looking after its licences, installation and data storage will be looked after by IT department.

MIS – Management Information System

IT department will create a framework for MIS – information system and deploy it across the organisation which will help organisation to take informed decisions and for the coordination, control, analysis, and visualization of information in an organization.

AI-ML

We Will incorporate AI- ML into the system. The IT department will also carry out task of Integrating CAD (computer aided design), CAP(computer aided planning), CAQ(computer aided quality test), CAT(computer aided testing) with AI which will take all production decisions based on the real time data input.

Cybersecurity

Cybersecurity is a significant issue in the business world today. Businesses today are vulnerable to cyber-attacks, no matter how big or how small the company is. We will enable devices such as a black box to safeguard the data and install antivirus and anti-ransomware (e.g., Sophos Intercept X) software. These safeguards can potentially save the business. IT professionals will be trained to implement security measures and make sure that all protocols are followed.

Cloud – Based ERP

No Manufacturing unit will be able to run efficiently without proper ERP. It will come under our purview to implement this software platforms.

The benefits include:

- Freeing companies from maintaining servers.
- Not needing to update locally stored software.
- No longer losing data from company computers or hard drives.
- Storing files in a secure, centralized location.

IT Policies

IT department will play a key role in setting up IT user policy for the employees to safeguard the user privacy and data in the company and make sure that the data of any sort generated inside the company facility doesn't leave the facility.

Website

In today's world, no company can survive without an online presence. The website will primarily be hosted in English, but there will be an option to convert them to the regional language. The website will showcase the company address, products offered, e-commerce, chatbots, and customer care information. The website will be a dynamic one so that anyone can access it even from a mobile phone.

With a well-designed and well-maintained website with a simple UI, we can gain a competitive advantage but building up our brand image and reaching out to more and more people. With this, we will generate online leads and convert those leads into our potential clients. A website will create a sense of trust within the customers, and other customer reviews will strengthen the faith. We will also provide video content about how the product is being made and from what we are making it.

The website primarily includes the following aspects:

- Details about the company
- Details about How we are making the world A better Place
- Key stakeholders
- Offered Product and product reviews
- E-commerce (online sales)
- Blogs related to sustainability and recycling
- Chatbot so that customers can resolve their Query
- Testimonials
- Company contacts and customer care details
- Future prospectus

IT Communication

We will be setting up tools for Video conferencing and various VOIP devices. We will also set up a CCTV camera so that the shop floor can be monitored, even from a remote Desktop.

Networking setup

The main task of the IT department will be setting up the internal computer network with the help of the server and trying to integrate the desktops and laptops to ease the information transfer. They may also have to look after remote desktop connections. They will have to keep a team ready to troubleshoot the network, maintain the network, and stop the network in case of a cyber-attack to safeguard the sensitive information.

Hardware support & Software Support

All the hardware up-gradation and changes will be facilitated through the IT department who will procure the hardware and set it up. Also, all hardware repair works will be carried out by the IT department.

All Software licensing, upgrade, and the IT department will look after surveillance. After that, the installation and troubleshooting will be seen over by trained IT professionals.

Backup system

All files and data can be organized and easily shared among both organizations. We can create backup for the system by mirroring the data to avoid any ransomware attack. We can get BLACKBOX device to carry out this task

Disaster Recovery System

Cyberattacks are evolving at a rapid pace. Once such a developed attack consists of crashing the entire system, there is no recovery from the attack. This attack may result in massive loss to the company due to complete system failure. To safeguard against this, we can set up disaster management and a whole recovery system.

Automation

IT department will look after use of automated applications and systems to manage key operations processes without the need for human intervention.

This will enable the IT operations teams to spend more time completing high-value projects, drastically reducing manual risks, provides auto-remediation and streamlines troubleshooting.

IIOT (Industrial Internet Of Things)

IT department will look after the installation of industry level sensors throughout the production process which will gather real time data and send it to analytics team through internet to create predictive models. With the data we can create condition-based maintenance alerts which will reduce machine down-time. Also, one can manage machines remotely.

Analytics department

The analytics department will perform the task of managing the data received from cohort departments and functions and based on that data will give us insights such as demand forecasting, fluctuation in sales, logistics SCM, etc. These insights will help the management to derive data driven decisions which will help the company to increase efficiency, productivity and expand the business and expanding the customer base.

The analytics team will perform the following

- Integrating Deep learning tech
- HR analytics
- Demand forecasting
- Hyper localization
- Logistics monitoring
- AI enabling
- ML integration
- Customer Feedback Analysis
- Chatbot operations

CONCLUSION

IT will need to encourage collaboration and work in tandem with other departments to produce satisfactory results. New IT standards will be implemented, and inter-company cooperation will be strengthened, thanks to the efforts of the IT department. Its responsibility is to ensure the safety of any confidential data and to provide support to the other departments. Teams will be able to work together more efficiently thanks to cloud computing and corporate resource planning. The IT team will be working to integrate state-of-the-art IT infrastructure into the system so that they can deliver superior IT services and support.