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Solution Architechture Design



**Federal Mogul India**

**Warehouse Management System**

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Document REVISION HISTORY

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**Abbreviations:**

**Client:** Federal Mogul India, henceforth will be referred as FMI

**Vendor:** Bar Code India Ltd., henceforth will be referred as BCIL.

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# Introduction

## Intended Audience and Reading Suggestions

The scope of this document is to provide the understanding of this solution to user & development teams associated with the application development & implementation.

This document major emphasizes on solution processes for Warehouse Management.

This solution will major comprises of followings:

* Desktop Application
* Mobile Device Application
* Communication Server Application

## Project Scope

The scope of the project is to create a WMS application using AIDC Technology (barcode labels and mobile computers) to efficiently monitor and manage the material movement and processing from RM Store to Production Floor. Material Identification will be done using barcode labels at the time of receiving.

The solution provides procedures to keep record of material during each stage when passed from RM to Production Floor and to Sub-Contractors for Job Work.

**RM Store:** The application will automate the warehouse processes i.e. Receiving, Palletization, Putaway and Issuing of material. Barcode Labels will be generated for the received material. Batch number, Product Code, etc. will be marked on label allowing user to trace the material at any stage. Material will be inspected & approved or rejected on the basis of quality check before being used for FG production. Material will be issued to production line against Production Order created on daily basis.

**Production Floor**: The solution will facilitate user to keep track of material consumed at each production line. Material will be packed in box and then in Master cartons to produce FG; barcode labels will be printed for each FG Carton in order to trace down the same on later stages.

**Job Work:** The application will also keep record of the material dispatched to Sub-Contractors or Vendors for SFG production against Production Order.

The solution is beneficial for Federal Mogul as it provides procedures for handling and managing returnable / non-returnable material, Sales Return Process, Stock Audit as well as tracking of material shipped to customers / other warehouse on zero value (Free of Cost).

This would require development of **Wi-Fi enabled application for real time transaction** i.e.the data will be captured in real-time, once the data has been collected, the database can then provide useful reports about status of material in warehouse.

The entire solution consists of followings:

* Desktop Application
* Mobile Device Application
* Communication Server Application

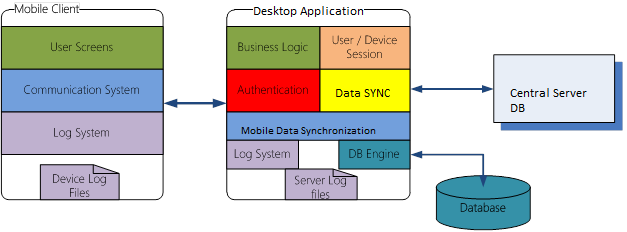
# Solution Architecture



**Note: -**

1. Coupon printing Scheduler is used to sync data from local to cloud.
2. Kitting Local database is connected with cloud server by linked server

# Logical Architecture



# Security Design

As BCI will not be using any web service and web API. All the application are windows application that are not exposed to web online so no security threat for application.

# Authentication and Authorization

Indeed every application is connected to the local database. Each user is connected with the application with a specific user and role. As application is connected with the specified user will be having specific rights. Password is encrypted and minimum 8 characters with alpha numeric is required.