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EPHARM System Design

IMIS Version 1.0

Integrated

Management

Information

Systems

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The purpose of this document is to define system design necessary for the development, enhancement and implementation of IMIS. Integrated Management Information System and its purpose will meet the increasing customer demand and extend the products lines and plan to expand the production capacity.

Automation of the present system will drive efficiency and can sustain service delivery to present customers and future requirements. A strategic plan were put together to fulfill the specification required by IMIS.

EPHARM main office and its branches would create IMIS that provides a web based real time reports and analytical research based on the data recorded. Critical and precise decision can be made on time in the fast changing business environment.

IMIS would play a greater part of the operation and the fulfillment of each business goals. Customers' satisfaction to a fast service and accessible information would help the growth of the company and can sustain the greater desire of the company to expand beyond measure.

INTENDED AUDIENCE

This document is intended as a guide to application developers for the development, maintenance and enhancement of the system. It will also provide a guide to implementation managers in defining the system requirements and configuration.

1. INTRODUCTION

System Definition

EPHARM System Applications (IMIS) is an integrated EPHARM ERP system that provides tools for EPHARM Corporate, Factories and Shops in performing their roles in achieving high quality of production.

Business Process Objectives

- ❖ Provide a means for EPHARM Corporate to efficiently analyse reports;
- ❖ Control and monitor the inventory of EPHARM Logistics;
- ❖ Create a secured, central repository for EPHARM and performance records that is easily accessible to EPHARM Corporate;
- ❖ Control and monitor EPHARM' results and achievements;
- ❖ Monitor the implementation of policy for EPHARM;
- ❖ Provide a means of relaying information efficiently across all EPHARM staff, EPHARM, and managers;
- ❖ Manage the inventory of products and raw materials in warehouses and monitor the status of stocks.

System Objectives

Support the project's process objectives by implementing an integrated EPHARM Applications system to do the following:

- ❖ Provide an online facility for EPHARM Corporate to create and view reports for new EPHARM and automatically set the application status as they go through the defined production process;
- ❖ Provide an online access to EPHARM to fill up and submit results of the daily work via the Internet;
- ❖ Provide a facility for EPHARM staff to initiate orders for tools and equipment for a particular Industry or for stock and to record the deliveries of such orders;
- ❖ Monitor the issuance of tools and materials per Industry;
- ❖ Provide an inventory system that links to verification of item availability and stock level updates and to user profiles for accountability monitoring;
- ❖ Provide a facility for assessors to record/monitor assessment of each Industry in different performance measures;
- ❖ Control the recording of profiles and work by the EPHARM and provide a facility for Quality Control to review such information;
- ❖ Provide a facility for EPHARM to record Staff attendance;

- ❖ Provide tools for sending messages to other users of the system and viewing schedule of EPHARM events as set by the EPHARM Corporate and EPHARM;
- ❖ Provide an online access to the EPHARM Agencies for monitoring their Industry's progress;

1 Scope of Work, Specifications & Requirements

Include a detailed list of the Business and System Requirements

1.1 Financials

Accounts Payable
Accounts Receivable
Advance License Accounting
Agent Account
Analysis Module
Bank Check Book Master Control
Bank Reconciliation
Bill Discounting
Budget
Budget Check/Control
Captive Capitalization
Cash Flow - Actual & Projected
Check & Bank Payment Advise/Voucher Printing
Consolidated P&L & Balance Sheet for Group Companies
Costing

- Individual Expenditure Allocation To Job
- Production Cost Information Capture
- Costs Summarized by Cost Group
- Exception Reporting
- Cost Overrun Reporting
- Job Problem Flagging
- Revenue Recognition and WIP Schedule Worksheet
- Unlimited Job Cost Categories
- Change Order Management System
- Estimates, Purchase Orders, Work Orders & Invoicing by Project

Excise Accounting
Fixed Asset Accounting
Fixed Deposits Accounting
Flexible Accounting Period
General Ledger
Group Company Global Master
Inter Company Fund Transfer
Inter Cost Center Secondary Allocation
Interest Calculations
Letter of Credit
Loan Accounting/Interest Calculation/Rate/Terms/Periodic Entry
Multi-Currency Payment/Receipt
Multiple Level Trial Balance
On Account Adjustment against Bill
Parameterized Cost Allocation
Parameterized Integration with Inventory & Payroll
Party - Currency Assignment
Party Credit Days & Credit Limit control for Credit Management

Post-Dated Checks
 Provision Account on Line/Off Line
 Provision Accounting
 Recurrence of Voucher
 Reversal of Voucher
 Sales Tax Set Return
 Strategic Business Unit Accounting
 Tax Accounting
 Tax Summary
 TDS Accounting wile Payment/Receipt Transaction
 Transaction Authorization Multiple
 Transaction History Log
 Transporter Bill Passing
 Voucher Entry/Authorization/Payment
 Voucher Replication
 WIP/Shop/SC Value Added Accounting

1.2 Supply Chain/Logistics

Contact Management
 Customer Order Entry
 RMA Field Service
 Export/Import
 EDI Integration

Accepts the Following Incoming EDI Transactions:

820 - Remittance Advice
 824 - Application Advice
 830 - Shipping Schedule Import
 846 - Inventory Advice
 850 - Purchase Order
 852 - Product Quality
 853 - Routing & Carrier Instructions
 855 - Purchase Order Acknowledgement
 856 - Advanced Ship Notice
 860 - P.O. Change
 861 - Receiving Advice
 862 - Shipping Schedule
 864 - Text Document
 875 - Grocery Purchase Order
 940 - Warehouse Shipping Document
 945 - Warehouse Shipping Advice
 997 - Acknowledgement
 DELFOR - Delivery Forecast
 DELJIT - Delivery Just-in-Time

Accepts the Following Outgoing EDI Transactions:

211 - Motor Carrier Bill of Lading
 810 - Invoice
 812 - Credit/Debit
 816 - Organizational Relationships
 832 - Price Sales Catalog
 846 - Inventory Inquiry/Advice
 850 - Purchase Order
 852 - Inventory Status

- 855 - P.O. Acknowledgement
- 856 - Advanced Ship Notice
- 857 - Ship Notification
- 865 - P.O. Change Acknowledgement
- 867 - Product Transfer and Resale Report
- 870 - Order Status Report
- 880 - Grocery Invoice
- 940 - Warehouse Shipping Document
- 943 - Warehouse Stock Transfer Advice
- 944 - Warehouse Stock Transfer Receipt Advice
- 945 - Warehouse Response
- 997 - Acknowledgement

Inventory Control

- Indent generation
- Goods inward
- Issues & returns
- Adjustments
- Recorder levels
- Economic Order Quantity (EOQ)
- Stock Management

1.3 Manufacturing

Bill of Material

- Effective Dates Controlled by Engineering Change Notification
- Unlimited Revisions & Alternate Routings
- Copy Bill of Materials
- 16 or more levels
- Roll Up standard & Most Recent Costs
- Update Standard Costs With Most Recent Costs
- Mass Change or Delete Support
- Maintain Yields for Each Component
- Checks for Recursive Items
- Records Engineering Changes
- CAD Integration

Break-down Management

- Capacity Requirements Planning
- Component Availability Checking & Ability to Substitute Items
- Co-product & By-product Manufacturing Support
- Cumulative Item Cost and Work Center Productivity Reporting
- Cumulative Lead Time Calculations
- Daily Productions Scheduling by Item/Site/Production Line
- Detailed Labor/ WIP/Sub Contract Tracking

Engineering Change Notice

- Electronic Engineering Change Notices/Requests (ECN/ECR)
- File and Drawing Reference
- User-Defined Approval Boards
- User Defined Approval Process
- Customer Driven Requests Responses
- Electronic Sign-Off
- Sign-Off Status Visibility
- Sign-Off Reminders
- Effective by Date or Inventory Quantity & Run Rate

- Report on Affected Items & Assemblies
- Permanent Audit Trail of all Bill of Material Changes
- Finite Loading & Forward Scheduling for Production Line Schedules
- Maintenance Contract Monitoring
- Maintenance Materials/Tools Management
- Manufacturing Order Processing
- Manufacturing Standards
- Master Schedule
- Materials Requirements Planning
 - MRP I
 - MRP II
- Option to Include Yield in Cost
- Optional Pick List for Stocking Point-of-Use in Discrete or Repetitive Environments
- Preventative Maintenance
- Product Change Control System
- Product Configuration
- Product Costing
- Product Structure Routing Copy
- Product Structures and Routing Effective Dates
- Production Data
- Production Monitoring & Control
- Production Statistic & Costing
- Project Monitoring
- Rough Cut Capacity Planning
- Scrap Factors for Use by Materials Requirements Planning
- Shop Floor Control
- Specific Manufacturing Support
 - Discrete Repetitive Process Support
 - Mixed-mode Process Support
 - Batch Processing Support
 - Process Manufacturing Support
- Technical Documents
- Where-used Inquiry

1.4 Human Resources

- Earning Deduction Master
 - Earning/Deduction Code
 - Description
 - Payment Frequency
 - Earning/Deduction
 - Finance Account
 - Calculation base (D/M)
 - Category Master Education
 - Language
 - Policy Information Base Master
 - Employment Information
 - Payroll Information
 - Qualification
 - Experience
 - Opening Leave Details
 - Personal Details
 - Process

Salary Process
 Arrears Calculation Process
 Finance process

Masters

Geographical Hierarchy
 Grade
 Designation
 Shift
 Bank
 LIC Details
 Late Scheme
 Earning/Deduction
 Grade wise Earning
 Deduction
 Global Earning
 Leave Master
 Loan
 Parameter Master
 ESIC
 Bonus
 Ex-Greta
 Gratuity
 Professional Tax Details
 Layoff Details Month end Process
 Year End Process

Misbehaviors Master

Transactions
 Attendance Entry
 Attendance Import from ARS
 Attendance Date wise
 Leave Entry/Sanction Loan
 Application/Sanction/Repayment
 Overtime Approval
 Generate Weekly Off
 Holiday Maintenance
 Grade wise/Designation wise Earning/Deductions
 Employee wise Earning/Deductions
 Process
 Leave Credit Process
 Loan Installation Generate
 Process (Monthly)
 Bonus Calculation Process
 Overtime Calculation
 Processes

1.5 Procurement

Amendments
 Ageing Analysis
 Bill Passing
 Enquiries
 Purchasing
 Purchase Order Placement

- Purchase Order Processing
- Quotation Analysis
- Rate Contracts
- Reconciliation
- Sales & Distribution Management
- Sales Order Processing

1.6 CRM Features (Customer Relation Management)

1.7 Application Integration (Third Party Software)

1.8 Quality Management

- Auto-Prompts for Test Results in Shop Floor
- Certificate of Analysis for Lots Passing All Tests
- Complete History of Each Test
- ISO 9000 Requirements & Documentation Support
- Manufacturing and Purchasing Quality Tracking
- Master Specifications Define Standard Testing Procedures
- Multiple Steps in Procedures Supported
- Quality Analysis with Parotid Charts
- Quality Order Tracking
- Pass/Fail Grade Assigned to Each Test
- Real-Time Notification of Out-of-Tolerance Conditions
- Sampling Patterns for Quality Orders
- Test Result Entry in Shop Floor Control, Repetitive, or Quality Management
- Unlimited Quality Comments on Each Test

1.9 Quoting & Estimating

- Create Estimate Templates from Previous Estimates
- Detailed Estimating Including Unlimited Cost Types
- Include Set Up and Run Times for Labor Operations
- Integration with Financials and Inventory
- Issue Multiple Estimates per Project
- Maintain Job Templates for Typical Jobs
- Multi-Currency Capabilities
- Store Multiple Estimate Revisions
- Track Supplier Quote Information
- Tax Computation
- Unlimited Levels of Detail in the Bill of Material with Full Costing

2. Research and Development

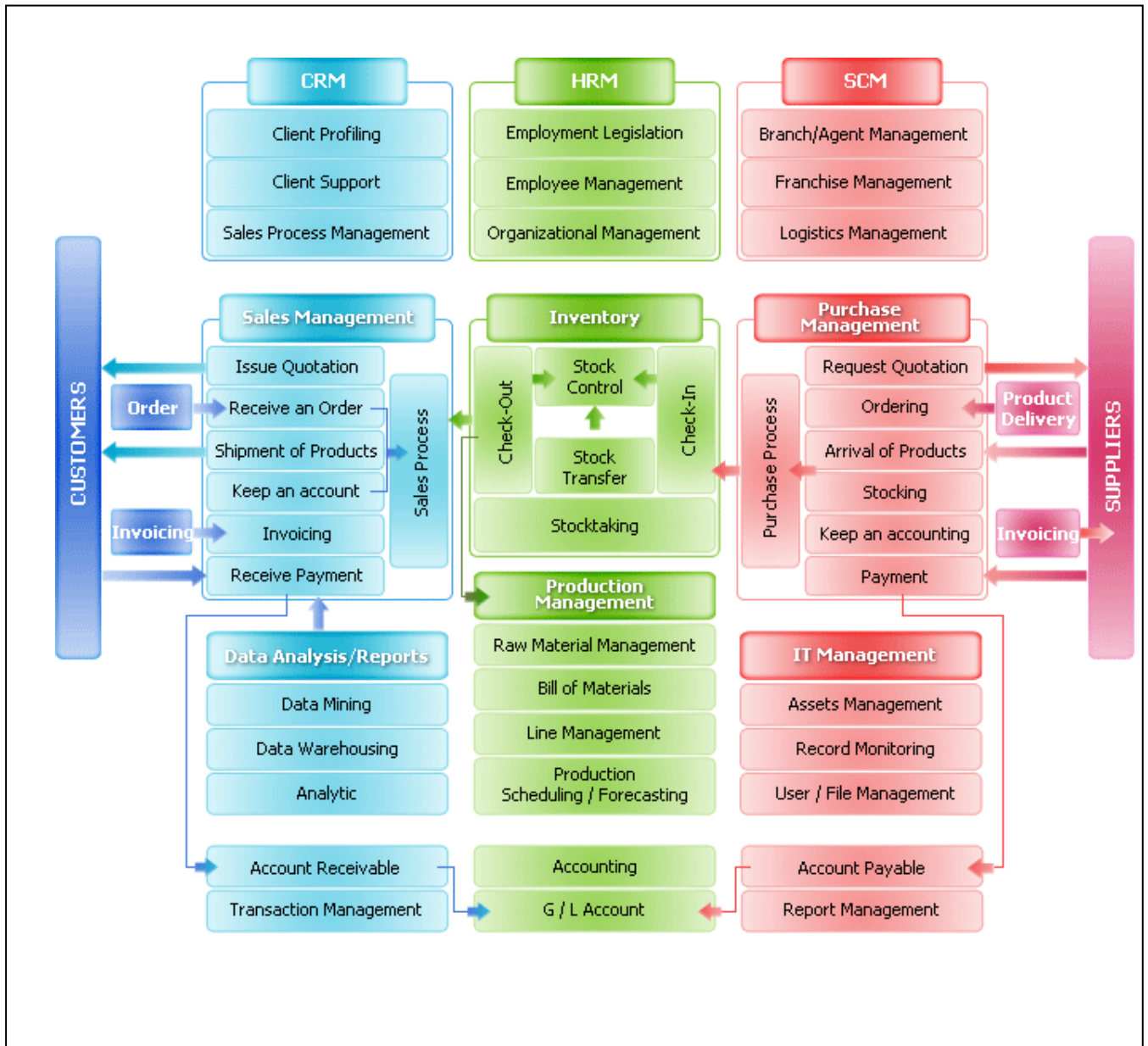
3. Training Institute

4. Reports

5. MODEL

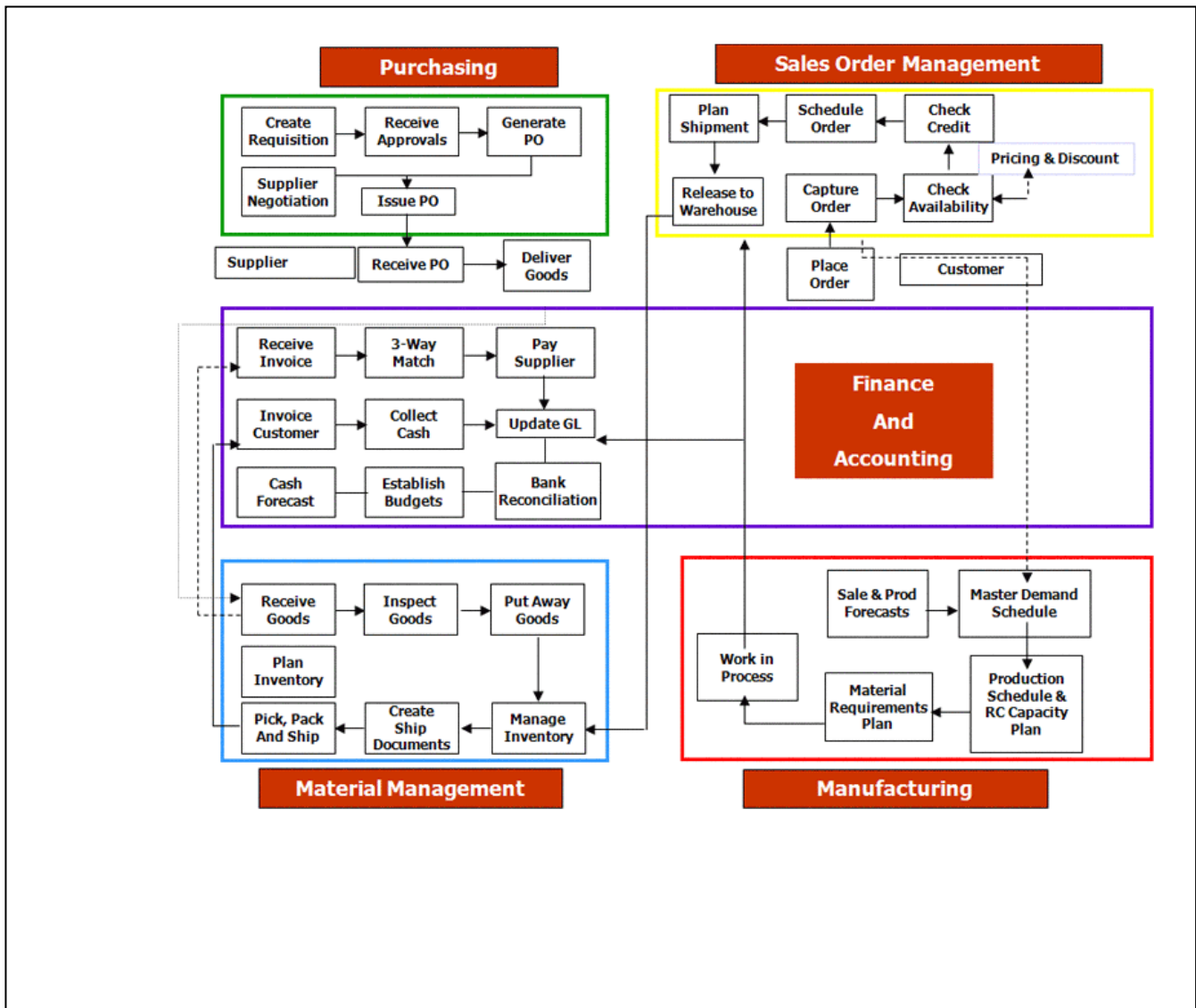
Conceptual Function Business Model

The functional model depicted in the diagram below shows the core functionalities embedded in IMIS to meet the objectives stated in the previous section. This model is meant to reflect the high level process within the scope of IMIS.

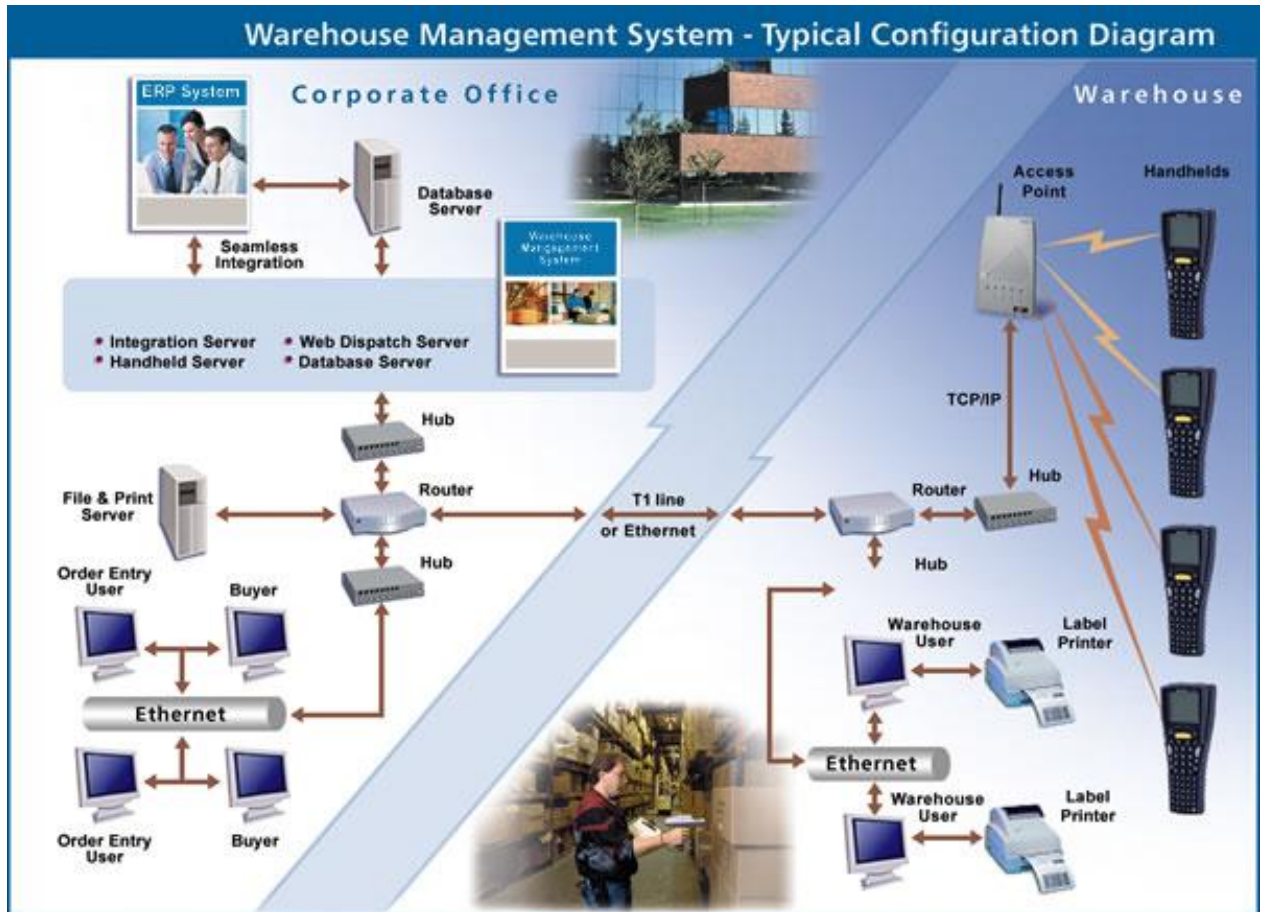


The following diagram illustrates the basic functional modules of IMIS. It provides a business view of what is to be done, and not how it is to be done. The order of the boxes does not necessarily depict the sequence for implementing the technology.

Fig. 2 IMIS FUNCTIONAL MODULES



IMIS NETWORK DIAGRAM



6 THE TARGET SYSTEMS

EPHARM targets to have Integrated Management Information Systems (IMIS) with the following features:

- i. The target systems will be integrated and provide EPHARM with state of the art functionality to fulfil its financial, supply-chain, and human resources management as well as other functions as depicted in this document;
- ii. The systems will be based on well-established, user friendly, commercially available or open source, multi-user software. It will be appropriately sized for the EPHARM environment recognizing the scale of operations, technical skills, infrastructure, and resource availability.
- iii. The systems will provide EPHARM with a full range of generally accepted accounting functionality and supply-chain management allowing for a growth path of the system for future EPHARM needs. The designed system will have the following characteristics:
 - a. Multi-user access;
 - b. Multi location access over a WAN allowing for remote access by branch offices;
 - c. Flexible in defining workflow, define/customize reports and add/remove custom fields at user level;

- d. State of the art of-the-shelf package functionality based on efficient transaction and data processing; and
 - e. Centralized data management of information and system resource providing for secure access of data over the WAN.
- iv. The systems must be independently managed by EPHARM within one year from the commencement of the implementation activities.

7 IMPLEMENTATION PHASES

Phased and staged implementation is the best way of realizing information systems in the business organized like EPHARM. The table below depicts the implementation phases of systems under consideration of this document. The solutions under Phases I & II need to be managed under a single contract.

		PHASE					
SN	Application/Subsystem	PHASE I		PHASE II		PHASE III	
		STG I	STG II	STG I	STG II	STG I	STG II
1	General Ledger (with Budget)	■					
2	Accounts Receivable	■					
3	Accounts Payable	■					
4	Cash Management	■					
5	Fixed Asset Management		■				
6	Payroll		■				
7	Inventory Management		■	■			
8	Procurement			■			
9	Sales & Distribution			■			
10	Personnel Management			■			
11	Vehicle Dispatch				■		
12	Maintenance Management				■		
13	Production Management			■			
14	Quality Control					■	
15	Product Lifecycle management					■	
16	Quality Management					■	
17	Corporate Portal Website						

8 OBJECTIVES OF THE IMIS IMPLEMENTATION

The following are the objectives IMIS implementation:

- i. To provide timely, accurate, efficient and effective accounting and subsequently financial management of EPHARM's funds;
- ii. To provide timely, accurate, efficient and effective management and execution of the supply-chain management activities;
- iii. To provide for the timely, accurate, efficient and effective management and execution of the human resource management activities;
- iv. To provide real time financial, supply-chain, and human resources information to EPHARM and the stakeholders including staffs;
- v. To provide real time quality standards, compliances, and control information to EPHARM and concerned stakeholders;
- vi. To provide seamless integration and interoperability of financial management, supply-chain management, assets management, and human resource & payroll administration.

9 CRITICAL SUCCESS FACTORS

The following are the critical success factors for the IMIS to be implemented successfully:

- i. User experience, business processes, business rules, and data format shall be studied and documented.
- ii. Data shall be migrated from existing information systems to target systems made and parallel operation of the systems practiced.
- iii. The IMIS applications shall be an off-the-shelf, modern and package-based functionality with minimal customisation and coding not exceeding 15% of the system;
- iv. Must provide for the single capture of the highest possible proportion of transactions at the earliest possible point in transaction process cycle;
- v. Must provide for the centralized access of information by EPHARM;
- vi. Training and capacity building must be a core objective to enable EPHARM to independently run the systems implemented;
- vii. Provision of post implementation support is critical in ensuring that the IMIS is sustainable over the long term; and
- viii. Appropriate sizing of the IMIS components is essential for ensuring the appropriate systems are implemented.

II. TERMS OF REFERENCE

- 1. FUNCTIONAL REQUIREMENTS, **8**
- 2. TECHNICAL REQUIREMENTS, **81**

3. ITEMS/SERVICES TO SUPPLIED - SUMMARY, 103

1. FUNCTIONAL REQUIREMENTS

The followings sessions briefly present specification of intended solutions as outlined below:

- 1 General Requirements
- 2 General Ledger (with Budget)
- 3 Accounts Receivable
- 4 Accounts Payable
- 5 Cash Management
- 6 Fixed Asset Management
- 7 Payroll
- 8 Inventory Management
- 9 Procurement
- 10 Sales & Distribution
- 11 Personnel Management
- 12 Vehicle Dispatch Management
- 13 Maintenance Management
- 14 Production Management
- 15 Quality Control
- 16 Product Lifecycle management
- 17 Quality Management
- 18 Corporate Portal Website

The requirements for each subsystem include description of the business objectives, the functional requirements, and the reporting features. These functional requirements are seen as the standard requirements for the IMIS.

I INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS SHEET

Below are tables of the functional requirements that you are required to respond to indicating whether the functionality is available, available with some modification or not available at all. For purpose of standardization of the evaluation process, the following codes will be used for responses:

- 3 The functionality is available with the proposed software with no modification/customization need.
-

2 The functionality will be available with some modification /customization of the system.

1 The functionality cannot be provided in the proposed system.

NOTE:

1. Critical features, which require extended modification periods, will play a role in the evaluation of the proposals. The highest rated proposals will reflect minimal additional modification and customization requirements, particularly for critical features.
2. Some questions may require a written response, rather than one of the multiple choices listed above. In those instances a space has been provided for your response. If you require more space for your response please attach these responses to the completed functional and technical requirements questionnaire. These responses should reference both the relevant page and question numbers.
3. Any additional comments relating to specific questions should be attached to the completed functional and technical requirements questionnaire. Comments should reference both the relevant page and question numbers.

NOTATIONS USED

Throughout this document, user requirements are classified as either “**Mandatory**” denoted by “**M**” or “**Desirable**” denoted by “**D**” next to each requirement.

DEFINITIONS:

- **Mandatory:** the requirement is considered mandatory if it must be available in the IMIS.
- **Desirable:** the requirement is considered desirable if it is good to have in the IMIS but would not compromise the basic functional requirements if it was not available.

All requirements whether Mandatory or Desirable must be met by the supplier. For the IMIS Functional Requirements, the supplier will meet the requirements either through Standard Functionality in the system, or through Customization, or through use of Third Party Products. All Third Party Products must be interoperable with the base applications.

SYSTEM SUMMARY

1.	When is the first release date of the proposed IMIS software	
2.	How many major revisions has the proposed IMIS software undergone since its initial release?	
3.	Please indicate the hardware platforms this IMIS software requires. Additionally indicate the amount of memory required for each platform	

	to effectively run these applications.	
4.	Does the system have any limitations in terms of maximum number of accounts, number of simultaneous users, data field sizes, etc.?	
5.	Provides mechanism for automated backup of data and simple procedures for restoration of data.	

1.1 GENERAL SYSTEM REQUIREMENTS

The General System Requirements provide the basic requirements that the system must have for it to be operational in EPHARM. The requirements identified below will provide for the setup and operation of the entire system.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
USER EXPERIENCE			
1. Proved menu driven graphical user interface	M		
2. Provide facilities to allow users, in accordance with their requirements to amend screen displays and character descriptions	D		
3. Provide facility to print any information displayed on a screen	D		
4. Provide screen navigation and screen selection facilities	M		
5. Provide online help facility for users and other documentation either through use of PDF file formats or any other user friendly formats, which is printable	M		
SECURITY			
6. Provide facility for creation of users and subsequent responsibilities for the maintenance of the users on the system	M		
7. Provide facility to set and maintain authorisation access to the following functions: <ul style="list-style-type: none"> - Data Entry - Validation - Update - Inquiry - Report Generation 	M		
8. Provide system management and control facilities to implement user access policies and authorization levels with different approval hierarchies	M		
9. Provide facility to control user access at the following functions /levels: <ul style="list-style-type: none"> - User access to the application - User access to the application windows/screens - User access to the fields - User access to the buttons 	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
<ul style="list-style-type: none"> - Read/write/execute functions - Access using combinations of the above - User access at branch/store/programme/directorate/unit level 			
<p>10. Provide password management facility with the following features:</p> <ul style="list-style-type: none"> - Central management and definition of passwords by management - Use of alpha/numeric passwords - Encryption of all passwords - Not displayed on the screen - Periodically revised by the user based on system rules 	M		
ACCESS AUDIT			
11. Provide facility for tracking and tracing documents through the use of an extensive user defined and system generated document numbering schemes	D		
<p>12. Provide transaction audit trail facility by identifying the following:</p> <ul style="list-style-type: none"> - User id - Application/module accessed - Date/time of access - Activity (before and after images/ changes) - System based alert reporting for violation of specific rights 	M		
13. Provide reporting of logon (including failed attempts) activities by date, time, computer/terminal and user id where applicable	D		
14. Provide facility for HARD COPY PRINTOUT of management and audit reports detailing the transactions, master file changes, and system maintenance activities etc.	D		
15. Provide control facilities over printing including ability to define access rights and ability to print audit reports at regular intervals	D		
16. Have facilities which will enable the overall system activity control including date/time stamping of files, run activity, input batch numbering (where applicable) and processing control totals.	M		
PARAMETERS AND RULES			
17. Provide daily management reporting options and auto configuration to enable confirmation of system integrity and that all ledgers are in balance.	M		
<p>18. Have facilities for control and maintenance at the system administrator level including:</p> <ul style="list-style-type: none"> - System control files (for example look-up tables, calendar set up) - System parameter files - Validation levels - Ability to define processing validation rules 	M		
19. Provide facility for users to define validation rules for	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
<p>the following:</p> <ul style="list-style-type: none"> - Voucher number duplication within each source - Dates if outside current year/period - Range checks on transaction values - Journal imbalance - Account status at item and sub item levels - Availability of budget 			
20. Provide online file update, batch update and online enquiries	M		
21. Provide functionality to supplement posting and validation routines with user defined rules for: <ul style="list-style-type: none"> a. Batch updating (gathering of data before input, delayed update of information) b. Online updating (direct input of data resulting in immediate update of information). 	M		
22. The system must provide for on-line warning or alert messages and transaction rejection where validation identifies invalid data input.	M		
REPORT FACILITY			
23. Provide facility to run automatic standard reporting on batches with single instruction	D		
24. Provide online inquiry for: <ul style="list-style-type: none"> - Summarized account level searches - Branch level searches - Transaction level record retrieval using pre defined parameters/values 	M		
25. Provide facility for reports to be directed to either printer, screen, or file and have: <ul style="list-style-type: none"> - Title/description - Details for the year to date - Page numbering - End of report message - Default spooling where output size exceeds user defined limit 	M		
26. The system must provide for period/year-end routines that: <ul style="list-style-type: none"> - Produce standard and user defined reports - Maintain integrity between modules i.e. module interface and integrity - Allow general ledger periods to be closed at a later date than other modules 	M		
27. Provide facility for automatic generation of exception reports	M		
28. Have the capability to run third party reporting tools such as Crystal report generator in order to access system data.	M		
MONETARY ISSUES			
29. Provide at least amount field of 9,999,999,999.99 for data entry, reporting, and screen display values.	M		
30. Provide multi-currency facility transaction processing	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
INTEGRATION / INTERFACING			
31. Provide functionality to accept input from subsidiary systems and have seamless interoperability where required.	M		
32. Have appropriate seamless integration between all modules with the ability to integrate with other (in-house) systems through acceptance of multiple file formats including XML, CSV, and ASCII.	M		
33. Provide an interface processing facility (wherever applicable)to: <ul style="list-style-type: none"> - Provide batch and processing controls - Prevent the duplicate input of interface files - Maintain the integrity of double entry accounting - Provide controlled interface with appropriate security for file import and integration 	M		
34. Able to allow options to accept transaction as follows: <ul style="list-style-type: none"> - Interface system summarized totals by specified account codes - All transactions from any subsidiary system, subject to validation - Transactions cleared from suspense accounts. 	M		
35. Prove full integration with Microsoft Office products (e.g. MS Excel) for analysis, report production etc.	M		
36. Ability to enforce recording the following information against each transaction to enable identification of source documents: <ul style="list-style-type: none"> - Interface System/ source reference - Source/ voucher reference for direct input - Interface System run date, period, and year - Ledger update run date, period, and year 	D		
DATA MANAGEMENT			
37. Provides users with web access “web-enabled” to data with full security providing complete offline data catch & upload updates for at least one working day.	D		
38. Able to maintain at least three year’s history online before archiving, with possibilities to access the data from the last three years through data inquiry.	M		
39. Provide security backup facilities to enable complete file restore and recovery	M		

1.2. GENERAL LEDGER (with BUDGET)

General Ledger is an integral component of a financial management system. It helps to create and maintain a chart of accounts and budget information for those accounts. It accumulates transaction details from other subsystems and provides periodic financial reports and statements, such as income statements, cash flow statements, balance sheet, and fund flow statement. Dimensional analysis of company’s performance such as actual financial progress vs. plans has data sourcing from this subsystem.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
1. Provide the capability to process system generated transactions from different subsystems	M		
2. Provide facility to convert Ethiopian calendar to Gregorian or vice versa	D		
3. Prohibit users from posting unbalanced transaction in to the system	M		
4. The system should protect transaction processing and posting by the same individual to strengthen the internal control of the company unless allowed exclusively.	M		
5. Provide the facility to compute production cost of a given medicine at the end of the month/quarter or year	M		
6. Should have the capability to post audit adjustment to prior year and transfer the adjusted ending balance to opening balance of the subsequent year without user intervention	M		
7. Allow users to define unlimited number of user defined fiscal periods	M		
8. Provide the facility to maintain detail chart of account	M		
9. The system should have the facility to maintain opening balance of accounts at the initial stage.	M		
10. Should have a facility to signal the user to post transaction before month or period-end if there are any un posted transaction list	D		
11. The system should work in a state of recording and transacting with different types of currencies	M		
12. Should have the option to create various branches	M		
13. Provide the facility to create cost centers, main cost centers and the likes	M		
14. The system should have the facility to consolidate the different branches and cost centers to view the overall operation of the organization	M		
15. Should Provide an opportunity to un-post transaction and allow to delete wrong transaction or modify as the need be on the current transaction processing period but not the previous closed (purged) periods. (No need to make adjusting or reversing entries required on the current transaction processing period).	M		
16. Should have the capability to do bank reconciliation online for different bank accounts	M		
17. Provide the capability to put transaction in hold status (saved, but not processed or posted) when importing from a sub system or spread sheet application and allow users to select held transactions and continue processing at a letter date.	M		
18. Allow processing of different document types. Among these are Payment voucher, bank transfer, cash	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
receipt, petty cash, journal vouchers etc...			
19. Allow to close all general ledger accounts at the end of each accounting period and roll over the balance to the next period automatically up on doing year end purge	M		
20. Provide the capability to disallow posting of transaction to already closed periods if not allowed by authorized personnel	M		
21. The system should provide a facility to create year end journals before closing the books of account at year end.	M		
22. Should provide the capability to record recurring transactions that can be set up in to the system to be reversed automatically on subsequent period (accruals)	M		
23. Have the capability to provide immediate and online notification to the user of erroneous transactions and the ability to correct errors online	D		
24. Have export facility to Microsoft office application (e.g. MS Excel) in order to manipulate the data's according to the user requirement not to tied up with the existing report format	D		
25. Automatically create different sets of budget modules using the stored sets of budget figure	M		
26. Facility to capture budget per period, for each account and cost centers.	M		
27. Provide the capability for batch and online (real time) posting alternative depending up on the user needs	M		
28. Capable of operating in a fully integrated way with the other sub systems such as payroll, procurement, accounts receivable, accounts payable, inventory control management, fixed asset, maintenance management and the like.	M		
REPORTING REQUIREMENTS			
29. Trial Balance for current month and year to date by (account number, control account, Main cost center, cost center, etc...)	M		
30. Un posted transaction list	M		
31. Proof lists for all financial transactions	M		
32. Cost of Production	M		
33. Schedule of accounts	M		
34. Cost center listing	D		
35. Document no audit list <ul style="list-style-type: none"> a. Ledger by account b. Chart of account 	D		
36. Account enquiry by cost center and account number	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
37. Schedule of accounts for current month and year to date	M		
38. Balance sheet with notes	M		
39. Income statement with note	M		
40. Income statement without notes	M		
41. Schedule of cost of goods sold	M		
42. Trend analysis of growth in revenue, increase / decrease in expense, debtors, doubtful accounts and the like	M		
43. Cash flow statement	M		
44. Fund Flow Statement	M		
45. Budget Versus actual and variance report by main cost center and cost center to measure performance	M		
46. Consolidated statutory financial statement as well as report by cost center or branch to measure performance	M		
47. Production cost by line, product batch...	M		
48. Bank reconciliation report	M		
49. Trend analysis report by varies dimensions	D		
50. Sequential reference number audit list to check unrecorded or missing document	M		
51. Budget allocation list by cost center per fiscal period or month	M		
52. Customizable reports generating facility for other report	M		
53. Ratio analysis	M		
54. Profitability by cost center and main cost center	D		
55. Budget allocation list by cost center	M		

1.3. ACCOUNTS RECEIVABLE

The accounts receivable allows users to register, update, and delete information concerning charges and receipts for sold products / services to customers, employees, and other external parties. It tracks things like customer invoices, contact information and payment history.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
1. The system should maintain detail vendor information of the followings by category, name, tax identification number (TIN), VAT registration number, payment terms, VAT registration date, organization type, region, sub city, kebele, house number, mailing address, telephone number, fax number and contact person, payment terms and the like.	M		
2. Create customer groups for statistical and reporting purposes (vat registered customers, agents, customers with one, two months credit facility etc...)	M		
3. Provide the capability to query and report on payee information by user-defined criteria, such as name, TIN, VAT Registration Number, contract or agreement number	M		
4. Provide the capability to maintain information needed to produce reports for FIRA such as Withholding tax, VAT etc by calculating the same automatically	M		
5. Displays the customer master information with options to view Credit Information, Sales History, Payment History,	M		
6. Credit limits at individual and group customer level	D		
7. Provide the capability to calculate interest on overdue payments	D		
8. Should have the facility to provide the option to import and export data from/to spreadsheet application (MS-Excel)	D		
9. Provide the capability to charge additional charges such as freight, loading unloading and other charges to adjust the payment amount	M		
10. Provide the capability to indicate if a collection is "partial" or "final"	M		
11. Should have a facility to charge customers	M		
12. Automatic credit warning when customer or group customer, is near or over credit limit and due date	M		
13. Keep details of settled and outstanding invoice by customer to build history (ledger)	M		
14. Should have a facility to black list customer who fails to settle their debt on time	D		
15. The accounts receivable should be integrated with personnel data maintained by the payroll for loan settlement and sales and marketing system for credit sales information.	D		
16. Should provide financial transaction data directly to the general ledger module and receive data from the sales and marketing application	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
17. Should have a facility to record post dated cheques & guarantee deposits as a collateral to get the privileges of credit purchase	M		
18. Should have the facility to record payment discount up on settling invoice within the discount period	O		
19. GL transactions posted from this sub system, should reference Account Receivable transaction in order to trace back originating transaction.	M		
20. Provide ready to post journal from invoice	M		
21. Should have a facility to record adjustment by amount	M		
22. Should protect duplicate recording of invoice	M		
23. Provide the capability to write-off receivables which become irrecoverable	D		
24. Setup payment schedules for invoices, define discount terms and due dates	M		
25. Should have a facility to match invoice with settlement	M		
26. Should have a facility to record user defined aging periods.	M		
27. Should have a facility to generate pre numbered invoice and cash receipt	D		
28. Should have a facility to record cash receipt from debtors.	M		
29. Should have a facility to record debit note & credit notes.	D		
30. Should be integrated with general ledger, accounts receivable, payroll, and sales module	M		
REPORTING REQUIREMENTS			
31. Item sold to customers by quantity and value	M		
32. Item sold by customer type	M		
33. Daily Cash collection summary and detail from debtors	M		
34. Customer statement of account	M		
35. Receivables report by customer type	M		
36. Aging accounts receivable reports (for trade debtors, employees, others).	M		
37. Report showing collection from debtors for a range of periods or dates	D		
38. Journal entries posted to the GL	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
39. Schedule of accounts receivable listing each account and its balance	M		
40. Credit sales by customer & location	M		
41. Trend analysis report for doubtful accounts for two to three years	D		
42. Customer master list	D		

1.4. ACCOUNTS PAYABLE

Accounts payable automates the recording, tracking, and settling of invoices or bills received from vendors for purchases of products and services to the company and generates supplier's statements of account for a given period. This subsystem should provide operational level information that can be used to schedule payments to creditors and assigns supplier for an item category.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
1. Organize creditor's records. Record vendor name, Addresses, Contact person and Mailing address, phone number, fax number, email address, VAT registration number, Tax identification number, payment terms, etc...	M		
2. Create vendor groups for statistical and reporting purposes (vat registered vendors, agents, creditors with one, two months credit facility etc...)	M		
3. Provide the capability to schedule payments of recurring nature who need regular payment such as prepaid insurance, prepaid rent, prepaid expenses with the appropriate accounting numbers and alert users to automatically create payment requests	M		
4. Vendor search by combination of name, address, telephone etc...	D		
5. Provide the capability to track the status of invoices in the payment process, including those that were not accepted and returned to the vendor and those that are awaiting administrative approval	M		
6. Provide for various forms of payment (such as TT, CPO, Cheque, LC, Bank Draft) and calculate the appropriate charges associated with the payment	M		
7. GL transactions should reference Accounts Payable transaction in order to trace back originating transaction.	M		
8. Provide the capability to consolidate multiple payment requests to a single payee to be processed by a single payment voucher	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
9. The accounts payable subsystem should provide financial transaction data directly to the general ledger module and receive data from Procurement and inventory control application.	M		
10. Allow to mark vendor or supplier records as inactive when the customer is no more sells product or service on credit.	M		
11. Provide the capability to handle partial payments and commitments that have passed a certain time threshold	M		
12. Allow us to specify which invoice to settle and when to pay them	M		
13. Should protect duplicate recording of vendor invoice	M		
14. Handle all tax computations (VAT, WHT etc...)	M		
15. Should have a facility to record user defined aging periods	M		
16. Generate supplier invoice from goods receipt.	M		
17. Provide ready to post journal from invoice	M		
18. Should have a facility to record adjustment by price	M		
19. Alert users overdue invoices	M		
20. Credit limit provided by vendor and follow-up	D		
21. Should get information from the maintenance system for subletting	D		
22. Payment options and debit memo, especially for routine payments	M		
23. Should be integrated with general ledger, maintenance system, cash position and procurement system	M		
REPORTING REQUIREMENTS			
24. Creditor statements of account.	D		
25. Accounts payable schedule for each account and its balance.	M		
26. Produce creditors list	M		
27. Produce aging analysis report	M		
28. Outstanding invoice list by vendor	M		
29. Report showing payment to creditors for a range of periods	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
30. Journal entries posted to the GL	M		

1.5. CASH MANAGEMENT

The Cash Management Module is to be used for managing and controlling the EPHARM cash cycle. It provides comprehensive bank reconciliation and flexible cash forecasting by interactively relating to other financial modules (revenue and expenditure) being implemented by the company. It should provide the functionality to determine their cash position as and when necessary.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
1. Provide the facility for capturing bank statement details manually	M		
2. Provide the facility for entering multiple bank accounts in different Bankers	M		
3. Facility to create and close bank accounts and generate notification reports	M		
4. Record anticipated future commitment payment for setting aside or availing fund (cash).	M		
5. Record or compute interest on OD balances monthly	D		
6. Record signed checks but not released to customers	M		
7. Record released checks but not settled by banks	M		
8. Record transfer of money to different bank accounts based on standing instructions.	M		
9. Integrated with general ledger module to pull information about any payment transaction	M		
10. Integrated with accounts payable to pull information about payments for credit purchases.	M		
11. Integrated with accounts receivable module to get information about collection from debt.	M		
12. Should allow recording of cash receipts (collection) or pull information from sales and distribution for transaction which involves cash sales	M		
13. Provide the capability to initiate payment requisition	M		
14. Should have a facility to record cash deposits	M		
15. Should provide various approval levels (such as up to 50,000 br. , up to 100,000. no limit and the like) as per the position they assumed	M		
16. Provide the capability to approve various payment requisition by different officials of the organization as per their approval limit	M		
17. Should have a facility to prepare payment voucher	M		
18. Should have a facility to record cheque prepared but not collected by payee	D		
19. Should have a facility to record post dated cheque	D		
20. Generate pre numbered documents for payment requisition	D		
21. Generate pre numbered documents for payment vouchers	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
22. Should be integrated with the general ledger, accounts receivable, accounts payable and procurement module to process payment request and post payment effected from this module to the general ledger	M		
REPORTING REQUIREMENTS			
23. Daily cash collection report	M		
24. Pre numbered payment requisition	M		
25. Pre numbered payment vouchers	D		
26. List of Cheque prepared but not released to the bank	M		
27. Payment voucher approved but not prepared cheque	M		
28. Cash forecast report	D		
29. Ability to perform bank reconciliation	M		
30. Released checks but not settled by the bank report	M		
31. Ability to provide the facility for defining forecasting parameters through interface with spreadsheets like MS Excel	M		
32. Cash availability report by reporting entity showing recent cash movements, current cash position and future known cash requirements.	M		
33. Ability to provide system-wide cash flow statements showing aggregate cash movements, current cash position and aggregate future known cash requirements.	M		
34. Ability to generate cash forecasts and other specialized cash forecast requirements for any defined period.	M		
35. Provide facility for authorized bank overdraft	D		
36. Trend analysis, for cash or bank balance at the end of each year, cash requirement, etc...	M		
37. Daily Cash position report for each bank account of the organization	M		

1.6. FIXED ASSETS MANAGEMENT

Fixed Assets Management is about purchasing and assigning something which has value for more than one year. It helps to track purchase cost, valuation, depreciation and gain / loss on the disposal of business assets such as equipment, computers, buildings, machineries, vehicles or other property.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENT
FUNCTIONAL REQUIREMENTS			
1. The System should have the facility to maintain two types of depreciation types (straight line and pooling) for tax calculation and financial statement preparation purpose.	D		
2. Should have a facility to record different Depreciation rate per fixed asset category, such as Land and building, Vehicle, equipment, IT equipment and the likes	M		
3. Maintain complete history of all fixed asset and should have a minimum of the following fields: Serial number, Engine number, chassis number, department, description, date of acquisition, GRN no, Issue reference, issue date, supplier name, purchase price, category, salvage value at the end of useful life, depreciation rate, account number, account no for depreciation expense, accumulated depreciation account, location, tag number, plate number, etc...	M		
4. Should be able to calculate fixed asset depreciation per the rate given for each category per month or quarter or year according to the user preference	M		
5. For cost management purpose all fixed assets in use should be synchronized with department or cost centers in which they are giving service.	M		
6. Should have a facility to record transfer or movement of fixed asset between departments, individuals, and branches	M		
7. Should have a facility to generate fixed asset count sheet to conduct physical count or verify the existence and condition of the asset	M		
8. The system should process depreciation and accumulated depreciation journal by cost center and branch	M		
9. The system should be integrate with the GL for posting and to facilitate reporting	M		
10. The system should be able to compute future depreciation for all fixed asset for budgeting and planning replacement of the asset	D		
11. Should have a facility to make adjustment to fixed asset whenever error occurred	M		
12. Should have facility to dispose and produce journal for disposal at one go	D		
13. Should have a facility to record list and opening balance of fixed asset	M		
14. Should have a facility to record purchase of fixed asset	M		
15. Should have a facility to record capital work in progress	M		
16. Ability to register and track warranty information	D		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENT
17. Asset life-cycle tracking, to help determine critical lifespan of an asset, total capital improvement costs, and maintenance fees. Information that spawns the appropriate financial decisions when the time is right.	M		
18. Capable of operating in a fully integrated way with the other systems such as, General ledger, and inventory control management	M		
REPORTING REQUIREMENTS			
19. The System should generate fixed asset list by category, location, cost center, department, and purchase date with capital amount.	M		
20. The System should generate newly purchased or added fixed asset list for the current year.	M		
21. The System should generate list of fixed asset transfer between departments or custodian.	M		
22. Fixed asset schedule depicting depreciation expense, adjustment, additions, accumulated depreciation and book value of the asset grouped by category	M		
23. Fixed asset depreciation journal detail for maintaining history and summary for posting in to the general ledger	M		
24. Depreciation expense report for the current month or year or user defined period or range of periods	M		
25. List of obsolete and scraped asset	D		
26. Future period depreciation report	D		
27. Fixed asset reconciliation report	M		
28. Depreciation list with list of fixed asset, depreciation expense, depreciation rate	M		
29. Trend analysis of expenditure incurred for maintain the machine or vehicle for two to three years	M		
30. List of fixed asset with book value	M		
31. Accumulated Depreciation list by category, cost center, branch	M		
32. List of fixed asset commissioned and transferred from capital work in progress	M		

1.7. PAYROLL MANAGEMENT

Payroll management subsystem handles unlimited number of user defined types of payments, deductions, additions, income tax computation, pension fund, and calculates bonus payments based on the number of months worked for the given year in the organization

The subsystem calculates employees' earnings; prints pay slip; and tracks salaries, wages, bonuses, tax withholdings, and deductions. It generates payroll transactions from a variety of sources including manual entry, time-attendance systems, and other applications

This application also provides reports to complete tax related forms and enables accurate payments for taxes withheld.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
1. Provide capability to define unlimited types of earnings and deductions, start/end dates, fixed amount or percentage of gross pay,	M		
2. Provide the capability to handle permanent, contract & daily laborer pays per the organization's rules and procedures	M		
3. Should provide a facility to define and maintain system users with different sets of privileges and authority level	M		
4. Should have a facility to associate employees with department or cost centers	M		
5. Should provide facility for handling court decisions to collect money from or pay to employees.	D		
6. The System shall provide facility to record, update and edit employee information or read from HRM	M		
7. Provide alerts (produce listing) for Employees who have time specific payments at least two months (or other time as may be defined by the company) before the expiry of the period	D		
8. Should have a facility to categorize employees as management, non management, & CBA or by salary grade / scale	M		
9. Provide the capability to process back payment if promotion or salary increment relates to prior periods.	M		
10. Have a facility to record net to gross computations	M		
11. Provide capability to calculate overtime and any other allowances according to predefined rates and / or positions	M		
12. Provide facility to select (and accordingly process) payment type (Cash/By Bank / cheque) default depending on salary amount with the capability to	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
entertain exceptions			
13. Should have a facility that enables management to enquire in to the employee information, Cost center information, and period set-up details on line from any workstation especially in a network infrastructure.	M		
14. Import data on absenteeism and overtime from personnel administration (finger print, barcodes or other systems) and calculate the amount based on employee basic salary and labor proclamation rate.	M		
15. Provide capability to maintain year-to-date, month-to-date, quarter-to-date, and current period payroll deduction records (payroll history)	M		
16. Should be able to calculate labor budget based on history	D		
17. Calculate deductions such as pension, insurance, income tax, and other deductions	M		
18. Should have the facility to deactivate the employee's information and payment history for a while and reinstate.	M		
19. Should have a facility to register employees who have cost sharing deduction as per the new government education policy of Ethiopia.	D		
20. Handle salary increment and bonus payment for all active employees based on CBA.	M		
21. Provide capability to prepare Payroll Journal entries for all payroll transactions and post automatically to the General ledger module	M		
22. Should handle various loans and stop the payment up on full settlement	D		
23. Should be able to calculate over time based on the company regulation and CBA	M		
24. Should handle different types of loans	D		
25. Provide the capability to define, calculate and manage income tax or other taxes (allowance exceeding the limit Eg transport allowance more than Br. 800) as per the applicable tax laws	M		
26. The payroll system should provide financial transaction data directly to the General Ledger & Accounts Payable/Receivable subsystems and receive data from Human resource management system.	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
REPORTING REQUIREMENTS			
27. Employees master list	D		
28. Payable report (income tax, pension, credit association, loan repayment, insurance etc...), pays slips, etc. to enable making the payments to the employees and governmental organizations (FIRA, Pension authority, credit association, insurance etc...).	M		
29. Departmentalized pay sheet for permanent and contract employees including denomination	M		
30. Newly added employee list	M		
31. Payroll change summary report	M		
32. Head count report by department	M		
33. Overtime hours worked per cost center	M		
34. Suspended and reactivated employees list	M		
35. Cost sharing payment by individual	M		
36. Payroll journal by cost center	M		
37. Trend analysis payroll expenditure per department for two to three years or months	D		
38. Proof-list	M		
39. Payroll slip	M		
40. Loan report by loan type & progressive loan report	D		
41. Employee list by user defined criteria	D		
42. List of suspended employees	M		
43. Payroll reconciliation report	M		
44. Outstanding loan balance from employees	D		
45. Earnings and deduction information on a monthly, quarterly and annual basis for each employee	M		
46. Customizable report generating facility	D		

1.8. INVENTORY MANAGEMENT

Inventory Management keeps track of all information about the items that the company manufactures, buys or sells, stock levels, issues, issue returns, receipts and the like. This subsystem also simplifies the management of pricing products and helps maintain the most effective inventory stock levels.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
1. Provide facility to record pharmaceutical items by batch and expiry date	M		
2. Should have a facility to issue pharmaceutical items by BATCH and using the principle of FIRST EXPIRED FIRST OUT or “FEFO” .	M		
3. Provide branch/ warehouse level product costing so as to help remove effect of expired or obsolete items which are not disposed from average cost of stock.	M		
4. Integrated with accounts payable to send amount payable to vendor for the goods delivered to store	M		
5. Track the complete history of inventory items movements.(Store Receipt, Consumption, Transfer between stores, Disposal ...etc)	M		
6. Establish Code for each warehouse location where inventory will be kept.	D		
7. Setup bin identification and shelf number to identify the location of specific stock item in the store.	O		
8. Create identification number to group inventory items. Such as 01 – raw material and chemical, 02 – Additives, 03 – machinery spare part, 04 – stationary, 05 – motor vehicle spares, 06 – packing materials, 07 – fuel and lubricant, etc... for grouping similar inventory items together.	M		
9. Calculate Inventory Cost By costing methods such as: Moving average, Standard Cost, or User Defined Costing Method.	M		
10. Enable users to follow up store requisition.	M		
11. Establish maximum precision to valuate stoke items (up to two decimal places with rounding options).	M		
12. Track inventory valuation using moving average, standard costing or any other costing method at the inventory item level.	M		
13. Enable the storage of budget quantity for each stock item for the purpose of controlling budget and reporting.	D		
14. Automatically create material requirement budget for future period based on history and forecast percentage given by the user both in quantities and cost.	D		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
15. Track inventory items in multiple locations.	M		
16. Monitor the issuance of stock below the safety stock level unless replenished.	M		
17. Automatically create reorder advice based on the minimum stock level, safety stock and lead time for a specific stock item.	D		
18. Enable transfer of stock items with in different stores (Multi store facility) and also to view list of items that are transferred by a specified transfer number. Should display the branch code where the item is transfer out or transfer from, date of transfer made, transfer invoice number, branch name, quantity, price and type of transfer, for the given product code.	M		
19. Enable adjustment of inventory by cost and/or quantity	M		
20. Maintain supplier history for stock item purchases.	M		
21. Enable provisional updates of transaction to the stock ledger.	M		
22. Automatically creates stock detail and summary journal.	M		
23. Enable posting to the General Ledger.	M		
24. Assign Account Number (at least stock & COGS) and Cost Center for each stock item.	M		
25. Produce Inventory Count Sheet or Physical Count Sheet from the system.	M		
26. Should have a facility to record unlimited substitute item entry	O		
27. Should have facility to record Purchased Item return to supplier	M		
28. Should have a facility to process Store Issue, Transfer-in, Transfer-Out, and Receipt based on Group Code, Item Code, or By Account Number at any point in time.	M		
29. Integrated with the General Ledger, accounts payable, accounts receivable, procurement, production and maintenance etc...	M		
REPORTING REQUIREMENTS			
30. Produces stock position by Account Number or Item Code.	M		
31. Produce stock reconciliation report by account number, by product code & should displays the beginning balance the receipt and issuance of the item and the ending balance, which is the theoretical balance or the quantity available.	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
32. List of items at critical stock position	M		
33. Comparison report between stock position of materials and reorder level	M		
34. Stock movement of a particular item for the current month/Quarter or year to date (Stock Movement or ledger (in quantity and value).	M		
35. Minimum Stock balance.	M		
36. Reorder level.	M		
37. Inventory Count Sheet.	M		
38. Slow moving stock items report.	D		
39. Fast moving Stock items report.	D		
40. Obsolete stock items report.	D		
41. Expired items listing report by item by warehouse by date	M		
42. Short Shelf-life items listing report by item by percentage shelf-life by warehouse	M		
43. Variance report against physical count in terms of quantity and or cost	M		
44. Trend analysis report for material consumption for two to three years	M		
45. Comparative Report. Example, stock position, consumption of the product for two consecutive years	M		
46. Over stocked items.	D		
47. Suppliers for stock items.	D		
48. Purchase history report.	D		
49. Consumption or issue report.	M		
50. Journal listing report. (view the journal entries created by the system based on the reference number or account numbers that are affected when you enter transaction)	M		
51. Daily Transaction Report.	M		
52. Stock list report.	D		
53. Stock list by movement date.	M		
54. Reference Number Audit List.	D		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
55. Opening inventory by period	M		
56. Counted stock list with value	M		

1.9. PROCUREMENT

This subsystem handles both local and foreign purchase activities from creating purchase requisition up to receiving the goods to the company stores. It will track the vendor, purchase quantities, item or service purchased, delivery timeframes, payment terms, and costs.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
1. The system should maintain detail vendor information of the followings by category, Vendor name, tax identification number (TIN), VAT registration number, payment terms, VAT registration date, organization type, region, sub city, kebele, house number, mailing address, telephone number, fax number and contact person.	M		
2. Should have a facility to maintain supplier category such as, Manufacturer, retailer, clearing agents and the like	M		
3. Maintain standard claim letters from insurance to facilitate refund.	D		
4. Maintain specification list for major raw materials to be used in manufacturing pharmaceuticals	M		
5. Assign purchases with purchasers to measure employee efficiency	D		
6. Show status reports of each outstanding purchases	M		
7. Should have a facility to maintain approval limit for approvers	M		
8. Should have the facility to maintain item category such as additives, major raw materials, cleaning materials, chemicals, stationary, vehicle spare parts etc...	M		
9. Should have a facility to maintain the costs types which will be accumulated in the process of importing (invoice price, marine insurance, freight cost, custom duty, clearing charges, SGS, and the like)	M		
10. Provide the capability to maintain information needed to produce reports for Tax Authority (FRCA) such as Withholding tax, VAT etc by calculating the same automatically	M		
11. Ability to define hierarchical approval process from purchase requisition-request for quotation-evaluation including samples-purchase order	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
processing involving various sections such as purchase, quality, finance ...			
12. Provide the capability to query and report on payee information by user-defined criteria, such as payee name, TIN, VAT Registration Number, and the like	M		
13. Create request for quotation which is used to quote or print purchase requests which will be dispatched to various suppliers in printed form or automatically emailed for collecting proforma purposes.	M		
14. Create purchase requisition by supplying details of the items to be purchased	M		
15. Capture Proforma invoice from recommended or approved suppliers or any suppliers for a given purchase requisition.	D		
16. Organize offer analysis for captured proformas for approver to make financial selection, delivery factors, and quality compliance.	D		
17. Should have a facility to automatically prepare purchase requisition which are in reorder level from inventory control management module	D		
18. Generate purchase order for selected supplier upon approval of quotation by the procurement committee/or such other party/ and quality control for selected type of items.	M		
19. Ability to maintain list of documentation requirements for procurement of raw & packaging materials (e.g. list of import documentation/bill of lading documentation requirements while procuring from foreign vendor)	D		
20. Able to maintain bid evaluation committee & its members with roles	D		
21. Able to maintain standard bid evaluation minutes' templates in local language (Amharic) for the different purchase types	D		
22. Able to generate bid evaluation result and minutes based on standard templates	D		
23. Maintain standard letter of award	D		
24. Provide facility for bid award tracking	M		
25. Facilitate to check budget before approval of supplier selection made	M		
26. Have different cost capturing means for local and foreign purchases	M		
27. Prepare computation of cost for GIT to avail enough money	M		
28. Allow to record creditors terms and condition	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
29. Handle all tax computations such as VAT and withholding tax	M		
30. The system should have a facility to associate vendor's request for payment (invoice) with different pre-defined status codes like: waiting for approval; rejected but not collected by the vendor; rejected and collected by the vendor; approved and waiting for payment; paid.	M		
31. Generate pre numbered documents of requisition, Purchase Orders, etc	D		
32. Ability to automatically identify "import" documentation requirements during purchase order processing and alerting the user to ensure compliance of "import" documentation.	D		
33. Facilitate to capture custom tariff code to estimate cost	D		
34. Facilitate to check payment made by each order against the order price	M		
35. Support purchase for Inventory/Stock, Fixed Asset, Supplies (non-stock-direct to consumption) or Service	M		
36. Facilitate to capture payment requisition for orders	M		
37. Order multiple line items per order	M		
38. Support for returning items to vendor	M		
39. Cost computation per line item of goods receiving reports	M		
40. Ability to facilitate partial goods receipt	M		
41. Provide a means of checking that goods received and invoiced are in accordance with those ordered, either through matching goods receipt notes (where used) or verifying invoice details	M		
42. Ability to automatically identify short received items by producing checklist	M		
43. Able to permit goods to be received into "control" areas for quality control testing before being entered into general inventory and automatically assign stock status such as "Quality Inspection"	M		
44. Should be integrated with general ledger, Inventory control management (to do for example collect product specification, inventory replenishment information...) and Accounts Payable and cash position (to do for example compute tax, manage payable & raise payment...) components	M		
REPORTING REQUIREMENTS			
45. List of not approved Requisition	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
46. List of not approve purchase orders by location traceability	M		
47. List of not collected proformas	M		
48. List of not approved offers	M		
49. List of potential suppliers of a product	D		
50. GIT report for closed and not closed orders	M		
51. Lists of outstanding purchase orders status report	M		
52. Offer analysis report	D		
53. Price trend by item by supplier	M		
54. Black listed suppliers list	D		
55. Indicate purchases that is not performed within schedule time	D		
56. Potential suppliers master list report	D		
57. Fully and partially received item report	M		
58. Insurance claim report for lost / damaged items	D		
59. Purchase requisition list by departments	D		

1.10. SALES & DISTRIBUTION

The sales subsystem processes customers' orders; produce invoices and credit memos; tracks sales persons; and automatically updates the Accounts Receivable, General Ledger, & Sales history. There could be several steps in the sales and distribution cycle: Sales Quote, Sales Order, Sales Invoice, and Sales Backorder. But not all steps need to be followed all the times.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
1. Setup different type of price for different pharmaceutical products of the company	M		
2. Should maintain information about the type of products offered to a specific customer at what price and the quantity sold.	M		
3. Should have a facility to record discount	D		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
4. Should generate proforma invoice for customers up on requisition	M		
5. Should have a facility to record validity date on the bottom of the proforma invoice	D		
6. Should have a facility to record customer category maintenance such as NGO, Government organization, Private companies, Drug stores, pharmacy and the like	M		
7. Manage cash or credit sales of product	M		
8. Should have a facility to generate pre numbered sales invoice	M		
9. Should have a facility to void sales invoices sold or recorded within the same date	M		
10. Provide a facility to record credit note	M		
11. Should provide facility to record yearly and monthly sales budget based on previous sales history.	M		
12. Should have a facility to record selling price increase or decrease by certain percentage or factors jotted down for a group of pharmaceuticals	M		
13. Calculate cost of sales by product type	M		
14. Facilitate to record miscellaneous or scrap items sales	M		
15. Capture various references on invoice such as VAT number, TIN number	M		
16. Capable of operating in a fully integrated way with the other systems such as, General ledger, accounts receivable, inventory management, and the like.	M		
REPORTING REQUIREMENTS			
17. Stock item price list	M		
18. Daily sales summary report by quantity, price and product	M		
19. Detail daily sales report by quantity, price and product	M		
20. Monthly, Quarterly, Biannually, Nine-Month, and Yearly sales report by item, sales area	M		
21. Sales and stock position report of a product	M		
22. Cash sales report	M		
23. Credit sales report by customers in quantity and amount	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
24. Reference number audit list	D		
25. Sales report by location	M		
26. Discount given	D		
27. Daily transaction list report	M		
28. Percentage contribution by brand	M		
29. Periodic (Daily, Weekly, Monthly, Quarterly, Annually) sales value and volume by customer category	M		
30. Trend analysis of sales by location, customer, product and the like for two to three years	D		
31. Actual versus planned sales report	M		
32. Settled and unsettled sales report	M		
33. Withholding tax report	D		
34. Customizable report generating facility	D		

1.11. PERSONNEL MANAGEMENT

The Personnel Management subsystem organize and record detail information with regard to employees' positions, job terms of reference, vacancies, appointments, etc., and integrated with payroll subsystem and time attendance systems (such as finger print reading and barcode) at the gate entrance to enable the user produce reports per their requirement. In addition it maintains the skill requirement information on job positions, analyze skill gap/training requirements, and help arrange & manage trainings

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
1. Should have a facility to record cost center, branch, division and department of the organization to associate Every Employee to Branch, Department, Division and Subsection that the employee belongs to.	M		
2. Should have a facility to records details for HR global parameter such as, title, special skills, allowance type, full name, address, birth date, marital status, educational level, Ethnic group, area of study, religion, language, type of employment, retirement date, previous employment history, training attended, gender, position, and etc...	M		
3. Register and follow up of Employee related events occurred throughout the employment life cycle such as Promotion, Transfer, Salary Increment, Training, Award, performance appraisal ... etc as soon as they occur.	M		
4. Keep track of contract extension, termination and suspension of contractual employees	M		
5. The system should be able to manage fixed term contracts for casual employees	M		
6. System should allow re-employment of casual employees though other casual employment contract and keep history of all contracts	M		
7. The system should have a facility to alert the user before a stated days for employees whose contract expires	M		
8. Have a facility to schedule annual leave for each employee	D		
9. Allow recording of medical check-ups and diagnosis given in the organization clinic and referrals outside of the company.	M		
10. The system should warn and generate a list of employees who have accumulated annual leave more than two years (or as may be required by the company).	D		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
11. Should have a facility to record the maximum number of days per type of leave for instance maternity leave after giving birth to child is 60 days, 10 days morning leave per annum etc.....	M		
12. Maintains and controls administration of various types of leaves including annual leave, marriage leave, exam leave, maternity leave, paternity leave, study leave, mourning leave, sick leave, leave without pay, and any emergency leaves taken by employees	M		
13. Should have a facility to maintain allowance types including their method of calculation, default amount and on what basis is the allowance applied (Position, rank or both).	M		
14. Should have a facility to setup Holidays and Week Ends for a specific year which will be important in automatic calculation of Annual Leave.	M		
15. Should have a facility to accrue employees annual leave and severance pay incase if the employee left the organization before retirement.	M		
16. Should record grade with their salary scale for each employee and also to edit already maintained records as and when change occurred.	M		
17. Record primary and secondary requirements of every position to automatically track eligible employee for vacant position.	D		
18. Should have a facility to register employees who have cost sharing deduction as per the new government education policy of Ethiopia.	M		
19. Align every Employee salary with the current salary scale to automatically perform salary increment for all employees based on Collective Bargaining Agreement.	M		
20. Maintain or synchronize per diem rate for each salary grade and travel location	D		
21. Should have a facility to record job codes (certification and classes) and technician skill code for charging cost incurred while maintaining a vehicle or machine	M		
22. Should have a facility to record training need assessment (GAP) of the employees on their current position	M		
23. Should have a facility to alert pending training left for each position or department within the budget year.	M		
24. Should have a facility to record training or education required to take over his immediate supervisor position (succession plan)	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
25. Record employee training and associated expense incurred, enforces the signing of training related obligatory undertakings.	M		
26. Should have a facility to record recurrent letters , memos and handles correspondences and implements personnel related proclamation, guidelines	D		
27. Control employee attendance automatically by using finger print reader or similar device to store employee ID numbers and dates/ time when the employee arrives or lives from the organization.	M		
28. Allow recording of protective devices and milk allowance and the like for each employees & position	D		
29. Maintain performance appraisal report and record disciplinary measures taken if any	M		
30. Allow to record vacant posts advertised	M		
31. Should have a facility to record resignation and reason for leaving the company	M		
32. Should have a facility to record applicants for vacant post, selection criteria along with weight to be used and the members of recruitment committee	M		
33. Should have a facility to record selection result for each candidate by the committee members who are assigned for the selected vacancy against the selection procedure assigned for that vacancy.	M		
34. Calculate annual leave based on Collective Bargaining Agreement	D		
35. Integrate with payroll Module and Maintenance system, send absenteeism and over time transaction to payroll automatically, to deliver technician skill code for maintenance system for charging labor cost on job orders.	M		
REPORTING REQUIREMENTS			
36. Employee master list report by status.	M		
37. Labor turnover report by range of dates	M		
38. Employee Grouping report: By ethnicity, sex, grade, marital status, field of study, age, Education Level, Salary, Service Year, Gender... etc	D		
39. Salary Increment, Promotion, Training... etc for a range of dates.	M		
40. Medical check up report for a range of dates.	M		
41. Employee Termination for various reasons and vacant position with illegible employees.	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
42. Leave report by type of leave taken for range of dates by employee, by cost center	M		
43. Annual leave schedule.	D		
44. Retirement schedule for any period of time.	D		
45. Overtime worked for a range of dates by type, by employee, by cost center.	M		
46. Overtime worked for a range of dates -- authorized & unauthorized per employee by cost center.	M		
47. Absenteeism for a range of dates by employee, by cost center.	M		
48. Absenteeism for a range of dates – authorized & unauthorized per employee by cost center	M		
49. Payroll transaction lists (Overtime and Absenteeism).	M		
50. Protective devices and job clothes requirement report.	D		
51. Performance appraisal report.	M		
52. Manpower inventory against organizational staffing plan	M		
53. Produce annual leave provision report	M		
54. Employees List by contract type	M		
55. Vacant position list by department	M		
56. Accrued annual leave days with amount	M		
57. Training requirement plan	M		
58. Training (certification) awarded employees list	M		
59. Pending training report	M		
60. List of employees with cost sharing scheme	M		
61. Employees list by grade	M		
62. List of employees with experience by different position they assumed	D		
63. Employees recruited and appointed by month	M		
64. Employees with extended retirement	D		
65. Summary of personnel related expenditures	D		
66. Customizable report generating system for other reports.	D		

1.12. VEHICLE DISPATCH MANAGEMENT

The vehicle dispatch subsystem is aimed to make management of vehicles' (trucks) pool very easy. The subsystem need to have features to manage vehicles, drivers, and vehicle requests. It will be integration with other subsystems such as maintenance, sales, inventory (fuel), personnel management, and finance.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
1. Record trucks (vehicle) detail information including Plate#, Chassis#, Date Put into service...	M		
2. Categorize vehicles based on their administration (HR, Sales etc...) to measure efficiency	M		
3. Keep record of drivers and their license level, date of expiry... or read same from Human Resources Management System	M		
4. Record trade routes including distance and condition of the roads.	M		
5. Ability to associate drivers with trucks and/or routes on dispatch	M		
6. Interfacing with Procurement and Sales subsystems able to help prepare dispatch plans	M		
7. Keep standard route cost by route and by truck	M		
8. Provide facility to request trucks from motor-pool by departments or drivers	M		
9. Able to guide users in assigning vehicles to routes showing availability, near-availability (in transit), trucks fitness to roads, and reading delivery lead-times & collection-time from ports (or such other supplier location)	M		
10. Record dispatches of trucks including the delivery/sales order information, dispatch route, kilometers to travel, fuel requirements, estimated date/time to return, and etc...	M		
11. Able to track trucks in-transit enabling update of information such as time to return, breakdowns encountered, fuel consumptions...	M		
12. Record fuel and lubricant issue by vehicle plate number	M		
13. Record kilometer reading of each vehicle when fueling	M		
14. Enable fuel consumption standard per vehicle to compare against actual consumptions	M		
15. Calculate the distance covered per liter of fuel consumed	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
16. Compute distance covered by vehicle per liter of fuel consumed to control fuel abuse.	M		
17. Should have enquiry facility to access and retrieve information from the system	M		
18. Should be integrated with the stock system and GL for fuel consumption	M		
REPORTING REQUIREMENTS			
19. Cumulative fuel issue by vehicle plate number and by day.	M		
20. Fuel consumption analysis report	M		
21. Distance covered per liter of Fuel consumed per truck	M		
22. Fuel consumption by vehicle	M		
23. Comparative report showing actual distance covered versus standard set per liter of fuel consumed	M		
24. Costs of deliveries on same route by different trucks and same truck on different but comparable route by order and by kilometer	M		
25. Vehicle utilization analysis and under/over utilization by route and vehicle	M		

1.13. MAINTENANCE MANAGEMENT

The Maintenance Management subsystem handles any type of maintenance due to schedule or unscheduled and maintains full history of the maintenance, cost incurred on each machine or vehicle and produce reports which are useful for management decision.

The subsystem registers service items, schedules for preventive actions, skill codes, creates and tracks authorized work order documents that describe how a specific task should be completed for breakdowns with technician and material assignment, tracks labor and material expenses by item and/or order.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
1. Register service equipment such as Truck, machinery... or equivalently read such information from Fixed Asset register.	M		
2. Keep record of PM task library and associated with asset PM category along with interval between them associate with measuring meters such as days, kilometers, hours...	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
3. Help to schedule Preventive Maintenance (PM) for each equipment separately, and provide alert message ahead of time (within user defined warning period) or when it is overdue	M		
4. Maintain technician skill code and enable to associate with PM task code	M		
5. Maintain technician information or obtain from Payroll / Human resource system	D		
6. Maintain history of corrective actions per asset category/per asset and ease creation of future work orders by putting them as services task and foreword skill /material requirements	M		
7. Able to create work order and track its status	M		
8. Manage material request and issue to work order	M		
9. Support assigning technician to work order, record work-hours and overhead costs against the work order	M		
10. Identify between outsourced and in-house maintenance tasks	M		
11. Allow full/partial outsourcing of maintenance work-order	M		
12. Maintain item maintenance history	M		
13. Record Daily/weekly... or such other point in time or meter inspection, preventive measure taken and Corrective tasks such as small, medium, overall maintenance made.	M		
14. Record accidental failures that may occur at any point in time.	M		
15. Record down time of machinery and vehicle with reason	M		
16. Perform the task of prioritizing.	M		
17. Compute mean time between failures	D		
18. Able to associate spare parts with PM tasks	M		
19. Able to show upcoming scheduled maintenance with time estimates and materials needed	M		
20. Able reschedule any tasks that are not completed to the next week or the next time of generating work orders (so that critical tasks will not be missed).	M		
21. Integrate with the General Ledger, Human resource module and ICM for stock item issue, to get technician skill code and to post cost of maintenance...	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
REPORTING REQUIREMENTS			
22. Status report on maintenance pattern of items, including year of purchase to consumption details, like: <ul style="list-style-type: none"> a. Production Machineries b. Utility Machineries c. Truck and Cars d. Building e. Compound f. Lab instruments g. Pipelines h. Maintainable Office Equipments 	M		
23. Yearly Maintenance Budget	D		
24. Spare part consumption analysis per machine /vehicle for any duration	M		
25. Operational cost of each machine and vehicle for any range of time	M		
26. Spare part request proposal for the coming period by analyzing the existing inventory of spare part	D		
27. Analyze actual performance against plan	M		
28. Work Order Completion duration analysis	M		

1.14. PRODUCTION MANAGEMENT

The production management subsystem handles the manufacturing process of various products and calculate the cost of production of each unit based on raw materials, labor, equipment, and other factors such as overheads using either planned or actual inputs. The subsystem issues raw materials based on the bill-of-materials & production routing setup for each product. The wastage or allowance of each raw material for producing the product will be calculated based on the predetermined rate of the company. But the module tracks actual raw materials consumption and loss. With Material Resource Planning it calculates material requirements and schedule supply to meet changing demand across products.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
1. Help in making (and also record) periodic (week, month, quarter, annual) production plan based on demand, production capacity, internal resources and past trend	M		
2. Record production plan of each line's per product	M		
3. Record each line's standard/estimated production capacity per product and package type and production standards	M		
4. Record all raw material input / consumption and any intermediate status of the production	M		
5. Record finished goods and transfer to stock	M		
6. Calculate yield of production & wastage	M		
7. Record Standard requirement to produce an item	M		
8. Calculate finished goods to be produced based on the raw material request / issue	M		
9. Assist to determine production capacity per line per product & such other references to measure the performance of the line	D		
10. Record down time of a machine or entire line	D		
11. Analyze actual performance against plan of production	M		
12. Calculate wastage incurred to produce a product and analyze against the standard	M		
13. Record machine and labor time applied for each product per batch / across batches	D		
14. Record multiple production processes, work centers and work center operations	M		
15. Maintain working calendar and holidays	M		
16. Maintain work shift at work center level	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
17. Enable material resource planning for production	M		
18. Track material and resource consumption at work center and work center operation level	M		
19. Record machine and resource cost during production setup / startup in addition to runtime	D		
20. Handle lot number processing	M		
21. Produce consumption and output journals	M		
22. Integrate with the General Ledger and Inventory control management	M		
REPORTING REQUIREMENTS			
23. Raw material consumption by quantity, type and value per batch and across batches...	M		
24. Finished product produced by type of medicine and value report with date range comparing actual performance against plan	M		
25. Yield and usage variance report	M		
26. Line capability utilization	M		
27. Trend analysis report of pharmaceuticals produced and raw and packaging material consumed for two to five years or more	D		
28. Wastage report by batch	D		
29. Daily production Report	M		
30. Monthly plant downtime report	M		
31. Periodic (week, month, quarter, annual) Production Plan	M		
32. Batch manufacturing record detailing material use & test results and associating SOP and other management documents	M		

1.15. QUALITY CONTROL

Quality Control subsystem is the quality control system, inspection and control of incoming and in-process non-conforming materials. Where non-conformities are discovered it helps to take appropriate actions such as reworking, alternative application, or rejection – through responsibly authorized party. It will be integrated with quality management – for corrective actions.

The subsystem maintains control over production processes that will be inspected at predefined testing stages (uniquely set for each product) for any type of defects against standards. The system will give alert when deviation from standard is below acceptable level. It finally produces the quality data sheet of each produced item based on the international standards-set accepted by the company.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
1. Maintain pharmaceuticals quality specification parameters per product class along with industry standard values	M		
2. Integrated to Production process for each individual product in order to set sampling/test stages and standard values per batch/or point in time basis or such other factor as may be dependent on product nature.	M		
3. Record test results per sampling/test stages and corrective actions taken when deviations occur against standard values	M		
4. Maintain finished goods design specification against industry parameters' standards	M		
5. Enable to evaluate compliance of finished goods against design standard values	M		
6. Maintain brand specific raw and packaging materials' specification against industry standards parameters	M		
7. Integrate to procurement subsystem to keep record of raw materials sample test and consignment test results to check compliance against suppliers' issued specifications so as to make decision for procurement, receipt of items to stock, and material returns to supplier.	M		
8. Maintain, retrieve, and analyze quality measure data related to raw materials, production processes, and finished goods.	M		
REPORTING REQUIREMENTS			
9. Certificate of Analysis –listing all test results with accuracy of determination for a given sample - specific test results.	M		
10. Monthly Report –listing the average and standard deviation of analytical results obtained for each product brand at each process stage.	M		
11. Production Consistency / Product Production Stability Analysis Report	M		
12. Suppliers' compliance/reputability analysis	M		
13. Yield/defect summary	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
14. Statistical quality control charting	M		
15. Volume vs. % Defective	M		
16. Defect Pareto	D		
17. Lot history card	M		
18. Summary of non-conforming raw, packaging and finished material reports.	M		

1.16. PRODUCT LIFECYCLE MANAGEMENT

Product Lifecycle Management (PLM) supports EPHARM in bringing products from idea through to design, production, and final disposition. It provides functionalities for product innovation, including product development and portfolio management, manufacturing process management, ideation, and requirements management, service data, and regulatory and compliance criteria.

PLM also incorporates product data management functionality and helps to create foundation for quality inspection processes and in-process control during production. Integrating with quality control/management, it satisfies the criteria for Quality Management System (ISO 9000), Good Manufacturing Practice, and Good Laboratory Practice.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
MATERIAL SPECIFICATION MANAGEMENT			
1. Centrally store and protect design files, specifications, and complete history of how each item has changed over time	M		
2. Maintain pharmaceuticals quality specification parameters per product class along with industry standard values	M		
3. Provide unlimited and configurable material classifications	M		
4. Provide hierarchic material classifications with unlimited levels	M		
5. Provide facility to manage material attributes configured by material class	M		
6. Facilitate quality specification definitions, as well as the recording of sample timing and frequency.	M		
PRODUCTION CONCEPTUAL PLANNING			
7. Provide conceptual production plan with graphical view display	M		
8. Establish high-level relationship between items, processes, and resources	M		
9. Capture production goals and targets (cycle time, throughput, cost, etc.)	M		
10. Identify conceptual machine, workspace, and human resources required for production	M		
11. Provide version control production plan with change history	M		
12. Support multiple production plan options & compare for efficiency & cost	D		
13. Communicate product data and geometry to other applications for testing, simulation, manufacturing, sales, and marketing	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
BILL OF MATERIAL/BOM/			
14 Provide tools for visual construction and maintenance of product's BOMs	M		
15 Manage comprehensive design BOMs with multi-level indented	M		
16 Provide facility to specify and record costs for component items	D		
PRODUCT DEVELOPMENT PROJECT MANAGEMENT			
17. Provide a configurable product development project management facility	M		
18. Able to associate multiple products or ideas to project	M		
19. Track project target, projected, and actual start & completion dates	M		
20. Track project target, projected, and actual cost	M		
21. Provide predefined process template for new product development and introduction	M		
22. Provide predefined process template for advanced product quality planning process	D		
IDEATION			
23 Able to capture product idea submissions and track the idea from initial entry through entire process	M		
24 Group ideas by multiple, user-defined categories	D		
25 Allow to submit unlimited number of documents with idea	D		
26 Provide configurable, user-defined input templates by idea type	D		
27 Provide routing of idea request via workflow – review & discussion notes captured on idea	D		
28 Associate idea to projects and product	M		
REGULATORY AND COMPLIANCE			
<i>Ensure adequate product and material specification, handling, disposal, compliance, performance, safety control, and hazard management.</i>			
29 Ability to flag designs with non-recyclable materials	M		
30 Ability to calculate composition of parent item from component compositions	M		
31 Ability to calculate attributes of parent item from attributes of component attributes	M		
32 Ability to identify materials determined hazardous or controlled	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
33 Identify and track recyclables and controlled waste	M		
34 Track receipt of recyclables and controlled waste	M		
35 Document final disposition of recyclables and controlled waste	M		
36 Provide expert rules to generate regulatory documents	M		
37 Ability to add company-specific regulatory rules	M		
38 Provide standard library of verbiage and phrases to add to documents	D		
39 Provide facility to edit automatically generated and manually created regulatory documents	D		
40 Provide facility to create and use Regulatory Document Templates	D		
WORKFLOW MANAGEMENT			
41. Enable define business processes by plant and / or site entities	M		
42. Allow business processes to be optionally shared across sites	D		
43. Provide facility to graphical display and edit (drag and drop) processes in flow chart format	D		
44. Allow user-defined processes and process configurations	M		
45. Allow defining processes composed of serial and/or parallel steps	D		
46. Allow defining processes composed of convergent and/or divergent processes	D		
47. Define process associated with unlimited number of documents	D		
48. Define manual and automated process steps defined in same workflow	D		
REPORTING REQUIREMENTS			
49. Product quality specification per product class	M		
50. Product Specifications including major changes with revisions A. Industry quality standard specification B. Design Specification C. Laboratory scale (trial) development D. Pilot scale development E. Batches scale development	M		
51. Conceptual production plan per product including machine, workspace, and human resources requirements	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
52. Product's BOMs	M		
53. Multi-Product development Project Status Reports	M		
54. Periodic product idea listing report	D		
55. List of products with non-recyclable materials	M		
56. List of hazardous or controlled materials	M		
57. Report on status and disposition of recyclables and controlled wastes	M		
58. Real time product stability report	M		
59. Real time product stability report after accelerated studies	M		

1.17. QUALITY MANAGEMENT

Quality Management System helps to maintain control over processes that are being inspected for any type of defects including controls document to comply with management standards such as ISO 9001 and GMP. It handles all aspects of internal audit program, from planning audits to the follow-up of corrective actions against deficiencies found and it includes everybody in the implementation of continuous improvement efforts.

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
FUNCTIONAL REQUIREMENTS			
COMPLIANCE MANAGEMENT			
1. Able to maintain audit schedule, audit checklist preparation, and all audit information	M		
2. Allow to enter custom checklist items and/or text directly from company's procedures	M		
3. Provide checklist derived directly from ISO9001 Standards	D		
4. Able to store pending files as follow-up items to be considered in future audits	M		
5. Allow to take containment, corrective, and preventive actions against deficiencies found in audits	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
6. Track all non-conformances, including actions and verification	M		
7. Allow users to request corrective actions due to concerns	M		
8. Allow documenting causes and tracks the status of an issue	M		
9. Allow scheduling & status monitoring of calibration of measuring instruments	M		
10. Allow scheduling and monitoring batch processing	M		
11. Integrated with Human Resources Management system to plan and manage training record of employees working in technical area	M		
12. Integrated with Production & Quality Control systems facilitate maintaining track record of released batches	M		
13. Provide facility to collect & evaluate market complaints and product recall management	M		
14. Integrated with Production & Quality Control systems facilitate managing annual product review	M		
15. Provides user-definable fields	D		
16. Provide real-time alarms to alert on out-of-control situations	D		
17. Provide text search capabilities that allow finding past corrective action requests	D		
DOCUMENT MANAGEMENT			
18. Allow review and approval of change requests to template documents	M		
19. Allow review & approval of qualification and validation protocols & reports	M		
20. Allow online approval of new documents or revisions with password protection	M		
21. Track revisions of all documents and print master lists	M		
22. Provides sorting of documents by departments and by document type	M		
23. Able to track and print approval lists	M		
24. Able to track and print revision histories	M		
25. Able to track 'Pending Changes', i.e. changes required for a document's next revision	M		
26. Able to track cross-references of related documents	M		
27. Able to maintain template Batch Manufacturing Records (BMR) and allow online access to unfilled copy	M		
28. Able to automatically complete BMR collecting	M		

REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
information from Production & Quality Control systems and allow online access to filled BMR's			
REPORTING REQUIREMENTS			
29. Report covering trend analysis and audit summaries	M		
30. 'Reminder' reports to track corrective action and implementations	D		
31. Audit schedules	D		
32. Audit history report	M		
33. Printed checklists	M		
34. Internal audit Corrective Action Summary	M		
35. Corrective Actions Taken	M		
36. Past due Corrective Action responses	D		
37. Pending Corrective Action implementations.	M		
38. Corrective action request by requestor	M		
39. Corrective action request by assignee	M		
40. Analysis by issue code	M		
41. Detailed analysis of Corrective Action activities	M		
42. Master document list	M		
43. Pending document changes	M		
44. Document change request: <ul style="list-style-type: none"> a. Summary report b. Detail report c. Approvals still requested 	M		
45. Documents cross references list	M		
46. Document revision history	M		

1.18. CORPORATE PORTAL WEBSITE

Corporate Portal Website presents company's products information to the customer everywhere in the world and presents the company with an integrated view of customers and prospects for marketing, sales, and customer service. The website will also be used as a collaborative environment with different partners such as suppliers (on purchase process), customers, other stakeholders having interest in the sector.

WEBSITE REQUIREMENTS	TYPE	RESPONSE (3/2/1)	COMMENTS
1. The company staffs will have e-mail address at company's URL/website location, e.g. sales@epharm.com	M		
2. Display company's and products' information to world-wide visitors	M		
3. Promote the company and its products	M		
4. Announce the company's achievements	M		
5. Collect direct feedback from customers through online feedback collection facility directed to database and/or email	M		
6. Bring customer demands and requests for new kinds of products	M		
7. Enhance customer loyalty by offering a more personalized service.	M		
8. Provide guest book facility for internet surfers to leave their messages	M		
9. Able to publish "import" documentation requirements in suppliers' area and automatically notify a supplier during order processing	M		
10. Provided an extended feature to track purchase orders/schedules progress with foreign suppliers in the following categories: A. Order Acknowledged by the supplier B. Material dispatched by the supplier C. Material cleared at customs D. Material received at warehouses	M		
11. Provide powerful search functionality for content and documents by varies parameters and avoiding duplicate results	M		
12. Provide advanced content authoring facility to manage web based and linked articles	M		
13. Provide advanced user management facility for company's staffs and other authorized or public users to contribute contents	M		
14. Produce website use statistical reports such as search keywords, downloads, viewed pages, visitors, response times...	M		

2. TECHNICAL REQUIREMENTS

The IMIS technical requirements have been prepared to depict the architecture for the implementation of the IMIS. The technical requirements below depict the system, hardware, network, and support requirements for the effective realization of the IMIS application processes.

1. Systems Architecture
2. The Data Center
3. Application Software Technical Spec.
4. System Software Technical Specifications
5. General Hardware Requirements
6. Server Requirements
7. UPS Requirements
8. Software and Hardware Delivery
9. System Software and Management Utilities
10. Help Desk Requirements
11. Capacity Building Requirements
12. Technical & Functional Training

2.1 SYSTEMS ARCHITECTURE

1. The system will be installed at the EPHARM Head Office. The branches are linked to the Data Center at the Head Office through WAN.
2. The technology must be state of art technology and must have been in use for not less than one year.
3. The capacity must develop to have continued support of the system after it is handed over to EPHARM as part of the implementation of the Technical aspects of the system.
4. All professional staffs of EPHARM shall have either read or full use or both to the target IMIS subsystem irrespective of their location. The suite of applications which the Supplier will provide will run in servers located at the Data Center.

2.2 THE DATA CENTER

5. Two "production" SMP based servers which will run the application and database software will be configured. The following tasks will be undertaken:
 - a. Installation of the application server on both of the SMP based servers. The two servers must run in a clustered mode;
 - b. Installation of the database server on two of the SMP based servers. The two servers must run in a clustered mode;
6. The application server must be attached to the database server using a gigabit network.

2.3 APPLICATION SOFTWARE TECHNICAL SPEC.

7. For the purposes of this sub-section, the terms -System, IMIS application software and software - are used interchangeably. Software is also used to include the following:
 - a. The application GUI;
 - b. The Application or business Logic;
 - c. The database system for the Application;
 - d. Any other utility (eg. Middleware) needed for the application;

8. The IMIS applications must be appropriately scaled based on state-of-art technology.
9. The software must have a multi-user functionality which can be deployed over a Wide Area Network. The systems should be able to allow up to 100 users when it is fully operational.
10. The software must have a 3-tier or higher architecture to allow third party product integration and scalability.
11. The systems must be able to support the control and execution of inter-dependent tasks that are carried out by different units of EPHARM.
12. Any data produced by the software must be validated at source and made available for sharing.
13. The System must provide facilities to migrate data from flat and other files.
14. The systems must provide for a facility to generate ad hoc reports in addition to the standard reports.
15. The systems must have an interface facility for other subsystems planned for utilization under the functional requirements and for future interoperability and integration with other systems that may be implemented by EPHARM.
16. The IMIS user and procedures manual should be prepared and issued before the go live date.

2.4 SYSTEM SOFTWARE TECHNICAL SPECIFICATIONS

17. The following hardware and associated system software are part of requirements of the system: Servers, UPS, Server System Software and associated services.
18. It is required that all components to be supplied must be appropriately sized.
19. The hardware platform must be based on state-of-art technology.
20. The system must support multiprocessing subsystems plus spare slots for additional processor plug-ins for:
 - a. Spare hard drive bays/disk arrays.
 - b. Spare expansion slots for memory.

- c. Spare expansion slots for NICs. There should more than two slots and one slot must have a provision for a dual mode card.
21. The application must be interoperable with all common printers in use and those printers proposed by the supplier.
22. The Systems must provide for component redundancy:
- a. RAID 5 or higher for data servers;
 - b. RAID 1 (mirrored disks with duplex controllers) for applications and system software;
 - c. The procedure for recovery based on these features MUST be specified in detail
23. The Systems must provide support for the following availability and performance features:
- a. Hot-swappable hard disks;
 - b. Hot-swappable processors (SMP);
 - c. Redundant power supplies; and
 - d. Clustering

The above definitions are minimum redundancy requirements. If essential for a particular installation, the supplier must identify additional redundancy components in support of high availability.

2.5 GENERAL HARDWARE REQUIREMENTS

24. At the installation sites, if required, physical security must be provided for the Hardware servers like lockable cages.
25. All active (powered) equipment must operate on a voltage range of 220v +/- 20v, and a frequency range of 50Hz +/- 2Hz.

2.6 SERVER REQUIREMENTS

26. IMIS high-level design identifies two main operational level servers: the Database Server and Application Server.

27. All Systems purchased must support TCP/IP.

28. All Servers must be accompanied by suitable system software so that there is no need to license separate software.

29. All servers must be scalable to accommodate future update of their capacity.

30. Servers must have a Dual port gigabit Ethernet cards.

NO	SPECIFICATIONS	DATABASE SERVER	APPLICATION SERVER
1	Quantity	1	1
2	RAM per Server	8GB	4GB
3	Internal Cache Memory Multiple Cross	4x 4MB	2x4MB
4	Central Processing Unit	4	2
5	Operating System	Windows Server 2008/Linux	Windows Server 2008/Linux
6	Monitor (17")	1	1
7	RAID 5 or higher for data storage with hot swap	✓	✓
8	Media Drive Slot	DVD and DAT	
9	Dual Power Supply	2	2
10	Hard Disk	(Disk space utilization not to exceed 60% of total capacity)	
11	Mirrored disk for OS & applications	3	2
12	Dual Controllers – (1 for each mirrored disk)	✓	✓
13	Giga Channels	Dual	Dual
14	Form Factor	Rack Mountable	Rack Mountable
15	Network Controller (100 Base T)	✓	✓

NO	SPECIFICATIONS	DATABASE SERVER	APPLICATION SERVER
16	Expansion Slot for CPU	1-2	1-2
17	Expansion Slot for memory	4	4
18	Expansion Slot for NIC	2	2
19	Expansion Drive Bays		
20	Floppy Drive	✓	✓
21	High Capacity DAT drive for backup	>3	>1

2.7 UPS REQUIREMENTS

31. One central UPS will be used at the Data Center at EPHARM to support the servers. The following are the minimum features of the centralized UPS.

NO	FEATURES	SPECIFICATION
1	Quantity	1
2	Line Interactive Architecture	
3	AVR automatic Voltage Regulation	
4	Communication Interface + remote shutdown RS232C interface	
5	Battery start	
5	Automatic Battery Test	
6	Load/autonomy indication	
7	Low battery indication	
	Auto charging	
	Operation	
8	Minimum capacity	5 KVA
9	Type	Sealed and maintenance free
10	Service life	3 - 6 years

NO	FEATURES	SPECIFICATION
11	Recharging time	<=5/6 hours for 90% capacity
12	Battery Extension Cabinets	>=2

32. This UPS should provide sufficient back up power for a minimum time of 1 hour for normal system shut down after power failure.
33. The UPS should be capable of shielding the hardware from the effects of irregular power conditions. These conditions should include over voltage, under voltage and static spikes.
34. The UPS should be able to restore battery power for continuous processing in the event of normal power loss.
35. There should be an auto self-diagnostic test on start up or on periodic basis that reports on malfunctioning UPS parts.
36. The UPS should have front panel indicators that display status information and audible alarm systems for notifying users on error conditions such as power over load or low battery.

2.8 SOFTWARE AND HARDWARE DELIVERY

37. The system documentation that is clear, concise, and presented in a professional manner both in hard copy and in electronic format must be provided.
38. All manuals and training materials must be available in advance of the training sessions to which they relate.
39. Hardware installation manuals and setup procedures should include:
 - a. System modifications
 - b. System protocol requirements
 - c. Conceptual Design

2.9 SYSTEM SOFTWARE AND MANAGEMENT UTILITIES

40. The Operating System must;
 - a. Run on multiple vendor platforms
 - b. Operate in a client/server environment.
 - c. Support Symmetric Multiprocessing (SMP)
 - d. Support clustered technology
41. The solution must provide the facility to backup data and application software using modern back-up technology. The software must provide functionality to enable the following:
 - a. Alert users of successful/unsuccessful backups;
 - b. Provide logs for previous and back-up processing and their associated status;
 - c. Provide a means of automatically scheduling back-up processing support for recoverable file system;
 - d. Mounting and dismounting of back-up tapes either manually or automatically (indicating to an output device any incorrect procedure such as incorrect tape mounts); and
 - e. Validation of tape sequence in subsequent tape mounts;

2.10 HELP DESK REQUIREMENTS

42. The technical and functional help desk will be required to undertake the implementation IMIS in EPHARM.

43. On completion of the help desk implementation, the help desk manual and the associated procedures for running the help desk must be prepared.

2.11 CAPACITY BUILDING REQUIREMENTS

The objective of the capacity building exercise is to ensure that EPHARM is capable of independently managing the system within a period of one year from the commencement of the implementation activities.

44. All training must be conducted using the English Language.
45. A preliminary training plan consistent with the different applications must be provided. Training must be coordinated with the implementation of the system so that no significant delays occur between commissioning and user training.
46. Comprehensive training materials for each trainee must be provided including soft copies.
47. All the training materials will develop and training will be delivered to about 40 users of the systems.

2.12 TECHNICAL & FUNCTIONAL TRAINING

48. The technical training will be provided to 3 technical staff that will eventually be required to run and maintain the hardware and system software functions.
49. In addition to the training, the technical staffs need to have one on one session for on the job training to ensure that they are able to undertake the real work in addition to having the training.
50. Technical training should include support staff and technicians. These personnel must be trained at the various levels on the running and configuration of the system to a level which allows personnel to effectively and independently manage the system.
51. The Functional Personnel per this document includes managerial as well as operational end users who will be responsible for the day to day upkeep of the system. The training requirements for these personnel must be geared toward that part of the system that will support their business tasks. At a minimum, training must cover introduction to key functionalities of the systems as well as operating procedure cycles.

3. ITEMS/SERVICES TO BE SUPPLIED-SUMMARY

SN	Component	Quantity
01.	Hardware	
i	Database Server	1 PC
ii	Application Server, in failover cluster with Database server	1 PC
iii	5KVA UPS for servers	1 PC
02.	Software and License	
i	Integrated Management Information Systems	10 Concurrent Users
ii	Database Management Systems	2 Servers
iii	Operating Systems	2 Servers
03.	Implementation Services	
i	Project Management	12 Months
ii	Study, Analysis, Customization, & Integration	2 ½ Months
iii	Training (Support Staffs & End Users),	2 ½ Months
iv	Deployment (Test/Pilot & Full Scale),	4 Months
v	Data Conversion	½ Months
vi	One Year Maintenance Agreement	12 Months