



Vietsoft

Ecomaint

Improper maintenance practice leads to high machine downtime frequency and low equipment effectiveness, which leads to increasing investment in equipments and fixed assets.

Regular machine downtime causes late delivery, loss of customers, lower turnover, higher contract fine or cost of delivery.

Machines operating in subpar condition make costs of raw materials increase because of high rate of scrap, low product quality, increasing energy consumption and high cost of repair...

CMMS helps businesses establish and operate maintenance management system effectively in order to stabilize production, served as a basis for business expansion, helps businesses increase revenue and scope.

Total management of maintenance activities.

There are various information that relate to equipment usage and maintenance, which can help achieve maximum equipment efficiency:

Equipment information:

Structure, components, parts on the equipment. Regulations on maintenance, verification and calibration.

Information on usage and maintenance:

Equipment status, efficacy and availability ability of equipment, history of equipment, the process of replacing parts.

Information on inventory:

Quantity of materials and parts in inventory. Information on parts origin, supplier.

Information on maintenance staff:

Contact information, skills, expertise, salary ...

All these information are managed and accessed with different reports to helps enterprises maintain the best condition of equipment and have an overview of the largest assets of a company.

Online usage with multi-user

Many departments are involved in the operation and maintenance of equipment: production, technical, maintenance, purchasing, inventory and board of directors. Software integrated on a multi-user network helps accelerate this process most effectively.

All maintenance or equipment replacement requests from production will be transferred directly to the technical department or maintenance department and vice versa. All information on maintenance can be accessed immediately by production - which uses the equipment.

Maintenance department can completely control materials status, spare parts inventory and production plan of the factory to arrange maintenance plan at the most appropriate time.

Catalogue management using structured data

Equipment suppliers often provide paper catalogue and most recently data file for their products. In these documents, information is unsorted so searching is unintuitive and takes a lot of time. These catalogues can be lost, which make equipment usage or maintenance become very difficult.

CMMS provides data storage from 50 types of computer catalogue and other related data in an interconnected and structured way, which makes accessing information easy and quick, preventing equipment breakdown due to maintenance work mismanagement.

Monitor all maintenance-related works and equipment status

With large number of equipment, maintenance management becomes more difficult, easy to miss and harder to detect critical problems.

CMMS helps tracking all activities related to maintenance department such as due maintenance work, calibration, verification, equipment checkup, equipment required to supervise, identify parts and materials in deficit ... helps maintenance department to handle works promptly to minimize damage at the lowest cost.

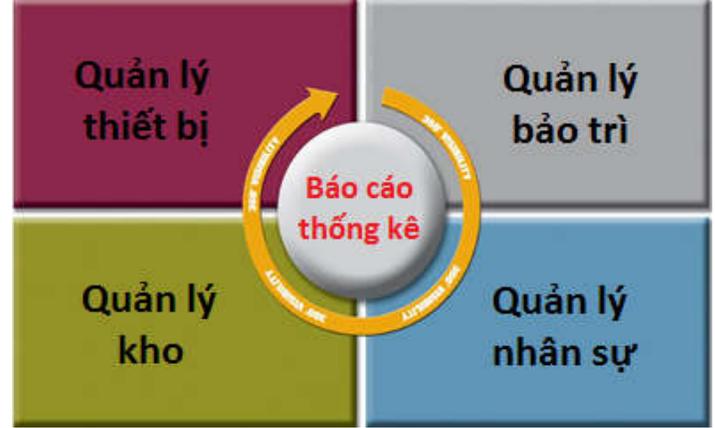


Image 1. CMMS - Total Maintenance Management System



Image 2. Equipment Catalogue with Structured data

Spare part ID	PSN	Qty	UoM	Item name	Function	Part No.	Description
DEV_ACB_006	LVI-QM	1.00	Pcs	ACB-MAIN INCOMING_DH12	ACB-MAIN INCO...		TYPE DH1
DEV_BUT_001	LVI-S01	1.00	Pcs	PUSH-BUTTON_0B7-EA	RESET BUTTION...		XBT-EA-1
DEV_BUT_001	LVI-B2	1.00	Pcs	BUZZER_HY-606	BUZZER		HY-606, A
DEV_CT_008	LVI-T1	1.00	Pcs	CURRENT TRANSFORMER_1200(SA)	CURRENT TRAN...	1200(SA)	
DEV_CT_008	LVI-T2	1.00	Pcs	CURRENT TRANSFORMER_1200(SA)	CURRENT TRAN...	1200(SA)	
DEV_CT_008	LVI-T3	1.00	Pcs	CURRENT TRANSFORMER_1200(SA)	CURRENT TRAN...	1200(SA)	
DEV_ELD_001	LVI-F	1.00	Pcs	EACH LEAKAGE DETECTOR	EACH LEAKAGE ...		ELR DONG
DEV_FU_002	LVI-FB	1.00	Pcs	FUSE_D10(L39-SA)500V	FUSE	SA, 500V	
DEV_FU_002	LVI-FC1	1.00	Pcs	FUSE_D10(L39-SA)500V	FUSE	SA, 500V	
DEV_FU_002	LVI-FC2	1.00	Pcs	FUSE_D10(L39-SA)500V	FUSE	SA, 500V	

Image 3. Asset's Details For Each Equipment

Equipment ID	Equipment	Maintenance type	Last calibration on	CYCLE	Next date	Equipment group
27.620	BLOWER DUST PARTICLE SEPARATION	Mechanical 2 month	01/05/2012	2 Thang	01/05/2017	Blower for Particle
27.632	DUCTING FROM BLOWER PARTICLE TO DUST SELO	Electrical 2 month	01/05/2012	2 Thang	01/05/2017	Ducting
27.632	DUCTING FROM BLOWER PARTICLE TO DUST SELO	Mechanical 2 month	01/05/2012	2 Thang	01/05/2017	Ducting
27.880	SILO DUST INCL HYDRAULICS	Mechanical 2 month	27/01/2017	2 Thang	27/05/2017	SILO Inc. Hydraulic power pack
27.880	SILO DUST INCL HYDRAULICS	Mechanical 2 month	01/05/2012	2 Thang	01/05/2017	SILO Inc. Hydraulic power pack
27.810	DUST SILO SCREW CONVEYOR DOUBLE OUTLET	Electrical 2 month	27/01/2017	2 Thang	27/05/2017	Screw conveyor
27.810	DUST SILO SCREW CONVEYOR DOUBLE OUTLET	Mechanical 2 month	01/05/2012	2 Thang	01/05/2017	Screw conveyor
27.910	SCREW CONVEYOR SMOOTHING AND DEFLECTOR FOR REJECT	Electrical 2 month	27/01/2017	2 Thang	27/05/2017	Screw conveyor
27.920	AIR LOCK ROTARY VALVE FOR REJECT	Electrical 2 month	27/01/2017	2 Thang	27/05/2017	Rotary valve
27.930	BLOWER FAN FOR REJECT MATERIAL	Electrical 2 month	27/01/2017	2 Thang	27/05/2017	Blower for reject
30.010	SILO UNLOADING PUMP TO TANKS	Electrical 2 month	10/03/2017	2 Thang	10/03/2017	UNLOADING PUMP
30.010	SILO UNLOADING PUMP TO TANKS	Mechanical 2 month	01/05/2012	2 Thang	01/05/2017	UNLOADING PUMP
30.100	SILO STORING AND PREPARATION	Electrical 2 month	10/03/2017	2 Thang	10/03/2017	SILO STORING
30.100	SILO STORING AND PREPARATION	Mechanical 2 month	01/05/2012	2 Thang	01/05/2017	SILO STORING
30.200	UREA WATER / HARDENER PREP AND STORING	Electrical 2 month	27/01/2017	2 Thang	10/03/2017	CHEMICAL STORING
30.200	UREA WATER / HARDENER PREP AND STORING	Mechanical 2 month	01/05/2012	2 Thang	01/05/2017	CHEMICAL STORING
30.330	EMULSION PUMP STORAGE	Electrical 2 month	10/03/2017	2 Thang	10/03/2017	EMULSION STORING
30.330	EMULSION PUMP STORAGE	Mechanical 2 month	01/05/2012	2 Thang	01/05/2017	EMULSION STORING
30.385	WATER INFEED INC PIPING	Electrical 2 month	10/03/2017	2 Thang	10/03/2017	Feeding pump

Image 4. Totally About Maintenance

Monitor and analyze maintenance costs

Maintenance cost is a key to evaluate the efficiency of equipment and maintenance. Managers need this information to evaluate the profitability of the equipment, eliminate unreasonable expenses while consider the ability to save maintenance costs.

CMMS provides cost analysis reports of many types, in various levels to help find the "hot spot" of maintenance costs for managers to monitor and analyze the cause of increasing maintenance costs.

Controlling maintenance costs well will help to significantly cut production costs and increase profitability and competitiveness.

MAINTENANCE COST CHART OF EQUIPMENT BY PERIODIC

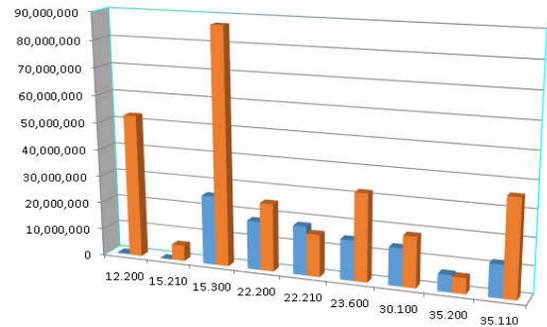


Image 5.Maintenance Costs Analysis

Structure of downtime of 24.200 by subjective element

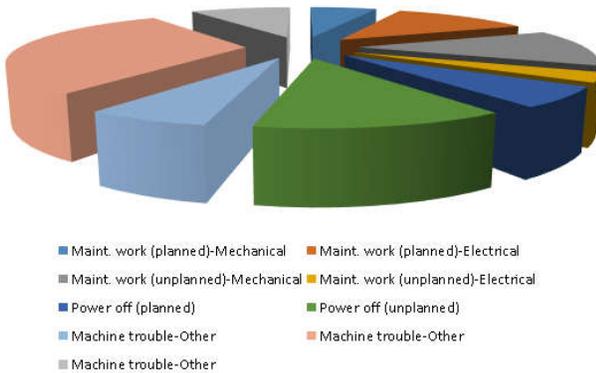


Image 6.Equipment Availability Analysis

Analyzing availability and usage efficiency of all equipment OEE

Business leaders often must decide whether to invest on more equipment to increase production or not. Overall Equipment Effectiveness (OEE) index is the most important criteria to make this decision accurately and objectively. Several million dollars in investment may become ineffective if investment decisions do not consider this important index.

The availability index of equipment is the most important criteria to evaluate the effectiveness and quality of maintenance. By analyzing downtime, we can propose necessary improvements to increase equipment availability.

Inventory monitoring and analysis

High inventory is a cause of increasing maintenance costs. However, lack of inventory will increase machine downtime due to waiting time when necessary parts are not in stock. It is necessary to solve this problem reasonably to cut inventory costs and machine downtime.

CMMS provides many analysis reports to help business manage their inventory better. By using inventory management on individual shelves, CMMS helps to quickly find materials and parts when needed, especially in case of machine breakdown, where every minute of downtime may be worth thousands of dollars.

INVENTORY ANALYSIS

							TOTAL OF VALUES:	576,497,686.78
No	ItemID	Itemname	Specification	Min	Max	Current	Values	
Warehouse: B_ROOM								576,497,686.78
1	ACU-0000-12075	12V75 AH	12V75 AH	0.00	0.00	5.0	25,000,000	
2	AVMM-0101-00004	CONJUNTO CHASIS Y COMPLEMENTOS		0.00	0.00	5.0	25,000,000	
3	BLG-M025-0450H	Day Belt450H25		3.00	5.00	3.0	21,621,000	
4	BES-RRC306206	BEARING	6206 2RS COMANUAL SPINDLE	50.00	100.00	100.0	13,820,000	
5	CHL-S402-00000	Sen 40-2R		5.00	10.00	10.0	12,720,000	
6	BEN-UCFC-211D1	Bec dan UCFC 211D1		0.00	0.00	12.0	11,748,000	
7	BLG-M040-4578Q	TIMMING BELT		3.00	5.00	4.0	11,426,000	
8	BES-0000-22213	BO-22213EK - SKF		5.00	10.00	6.0	10,443,600	
9	AVMM-0101-00001	CONJUNTO REPARTIDOR Y MOTOR		0.00	0.00	5.0	10,000,000	
10	OLS-0320-0MALA	Shell S2 G320		20.00	200.00	178.0	9,647,600	
11	BLG-M030-0400H	Day Belt400H30		3.00	5.00	3.0	8,166,000	

Image7.Inventory Analysis

MATERIAL PLAN BY EQUIPMENT TYPE

From date 01/05/2017 To date 30/07/2017

No.	Item ID	Item name	Maintenance t	Quantity	UoM	Price	Amount	Stock Qty
<i>Of work site 24.PARTICLE</i>								
<i>Equipment type</i>		<i>Grader</i>						
<i>Equipment ID</i>		<i>24.200</i>						
1	DEV_FSD_101	Fuse-switch-disconnector	Electrical 2 month	1.00	Pcs			0
2	SEN_PRO_136	Inductive proximity sensor	Electrical 2 month	1.00	Pcs			0
3	SWI_LIS_112	Limit switch	Electrical 2 month	1.00	Pcs			0
4	DEV_WEI_100	Standard chain weight	Electrical 2 month	1.00	SET			0
5	DEV_WEI_102	Counter Weight for TAW	Electrical 2 month	1.00	SET			0
				Total				
				Total				

Số lượng vật tư, phụ tùng được sử dụng:

MS phụ tùng	Tên vật tư, phụ tùng	Tổng số lượng	ĐVT
DEV_FSD_101	Fuse-switch-disconnector	1.00	Pcs
DEV_WEI_100	Standard chain weight	1.00	SET
DEV_WEI_102	Counter Weight for TAW	1.00	SET
SEN_PRO_136	Inductive proximity sensor	1.00	Pcs
SWI_LIS_112	Limit switch	1.00	Pcs

Formed by

Image.8: Planning Materials For Maintenance

Tracking history of equipment and parts replacement

Equipment history helps to track the process of repairing and replacement of parts. Technicians need this information to analyze breakdown, evaluate the effectiveness of maintenance, determine the actual life and quality of parts to generate feedback and adjust periodic maintenance regulations, avoid unexpected breakdowns and maximize parts efficiency to cut costs of replacing

Material planning for maintenance

Planning materials for maintenance well reduces inventory and machine downtime due to insufficient materials or parts.

CMMS calculates the necessary quantity of materials and parts for maintenance and alerts user about materials and parts with inventory than least inventory to avoid stopping machine due to waiting to buy parts and materials when they is not available in stock.

The screenshot shows the 'Equipment History' window in a CMMS application. It features a tree view on the left for 'Equipment Hierarchy' and a main table for 'Equipment History'. The table columns include 'Date', 'Work Order', 'Status after maintenance', 'Component', and 'Work'. Below the main table is a section for 'List of Alternative Spare Parts' with columns for 'Item ID', 'Pcs', 'Purchase date', 'Quantity', 'Replaced by', 'Company/Supplier', 'Alternative Spare part', and 'Quantity'.

Image9.Equipment History

Different from documents on paper or on file, CMMS provides equipment history not only in all equipment but also allows exporting the history of each component of the device, reduces time to access the information needed.



Better Management, Better Work, Better Profit

For more details about Vietsoft Ecomaint and other maintenance documents, please visit our website:

www.vietsoft.com.vn

forum.vietsoft.com.vn

Or contact to us:

Vietsoft Co., Ltd

91 Nguyen Trong Loi, Ward 4, Tan Binh Dist, HCM

Tel: 08.38 110 770 - Fax: 08.38 112 750

Email: sales@vietsoft.com.vn

