



NeST Manufacturing Asset Control System

UI and Functional Specifications

October 03, 2018

Ver 2.0

Prepared For



Prepared By



This document includes data that shall not be disclosed outside the business address listed above and shall not be duplicated, used, or disclosed—in whole or in part—for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this Offeror as a result of—or in conjunction with—the submission of this data, the client shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract.

Version	Description of Change	Author	Date
1.0	Maintenance and Calibration System - UI and Functional Specifications	Mohammad Rafeek	Oct 31, 2017
2.0	Maintenance and Calibration System - UI and Functional Specifications- Document Updated with new changes	Mohammad Rafeek	Oct 03, 2018

Table of Contents

1.	Introduction	5
1.1.	Purpose	5
1.2.	Scope	5
1.3.	Overview	5
2.	System Overview	6
3.	Web Portal Features	6
3.1.	Login Page	6
3.2.	Dashboard	7
3.3.	Equipment Master List	7
3.4.	Equipment Mastercard	8
3.4.1.	Equipment Mastercard (General).....	8
3.4.2.	Equipment Mastercard (Comments).....	13
3.4.3.	Equipment Mastercard (Documents).....	13
3.4.4.	Equipment Mastercard (Status History).....	14
3.5.	Calibration Details	15
3.5.1.	Calibration List.....	15
3.5.2.	Calibration Record	16
3.5.3.	Calibration Record (General).....	16
3.5.4.	Calibration Record (Master EQP used).....	17
3.5.5.	Calibration Record (Comments)	19
3.5.6.	Calibration Record (Documents)	19
3.6.	Work Instruction ID calibration.....	19
3.6.1.	Work Instruction ID Calibration (List).....	19
3.6.2.	Work Instruction ID Calibration.....	20
3.7.	Planning Calendar Calibration.....	21
3.8.	Posted Calibration.....	22
3.8.1.	Posted Calibration Record List.....	22
3.8.2.	Posted Calibration Record	23
3.8.2.1.	Posted Calibration Record (General)	23
3.8.2.2.	Posted Calibration Record (Master EQP Used)	24

3.8.2.3.	Posted Calibration Record (Comments).....	25
3.8.2.4.	Posted Calibration Record (Documents).....	25
3.9.	Preventive Maintenance Details	26
3.9.1.	Preventive Maintenance Record List.....	26
3.9.2.	Preventive Maintenance Details	26
3.9.2.1.	Maintenance Record (General).....	26
3.9.3.	Work Instruction ID PM – List.....	27
3.9.4.	Work Instruction ID PM	28
3.9.5.	Planning Calendar PM	29
3.9.6.	Posted Maintenance Record List.....	30
3.9.7.	Posted Maintenance Record	30
3.10.	Breakdown Details	31
3.10.1.	Breakdown Records List	31
3.10.2.	Breakdown Record (General)	32
3.10.2.1.	Create Breakdown Record	32
3.10.2.2.	Test Engineer Review on Breakdown Record	33
3.10.3.	Breakdown Record (Comments)	35
3.10.4.	Posted Breakdown List	35
3.10.5.	Posted Breakdown Record	35
3.11.1.	Create Product Test Item	38
3.11.2.	Field Description – Product Test Item	40
3.13.	Admin Functionalities	47
3.13.1.	User Creation.....	47
3.13.1.1.	User list	47
3.13.1.2.	User Details / Assigning Roles to users	48
3.13.1.3.	Add New User	48
3.13.1.4.	Manage Roles.....	49
3.13.2.	Number Series (Prefix Definition for Record ID's) :.....	50
3.13.3.	Master entries	51
3.14.	Navision Integration.	52

1. Introduction

1.1. Purpose

This document describes the various UI and Functional specifications for the release of the NeST Manufacturing Asset Management System web portal for SFO Technologies, substituting the existing service of Microsoft software Navision. This document intends to become the rule book for the initial stage implementation of the app, which shall be used by the members of the organization to verify the correct functioning of the system.

1.2. Scope

At present the maintenance and calibration system has been implemented in Navision system in SFO. The scope of the proposed system is to replace the current functionalities implemented in Navision system for maintenance and calibration functionalities with a web portal.

1.3. Overview

An overall functionality description of the system is provided, including a product perspective, UI elements of various pages. An overall description of the system is provided including a product perspective and an easy followed user perspective.

2. System Overview

The requirements for the new features set describe how the system behaves for the proposed system users in monitoring, maintaining and calibrating system for the assets of the organization.

3. Web Portal Features

3.1. Login Page

When a user enters the URL of web portal in a browser, they will be directed to a login page for entering the identifier information into the system in order to access the system. The login page will have Username and Password. After filling these fields with relevant information, user can click on the login button to advance towards the dashboard of the respective user.

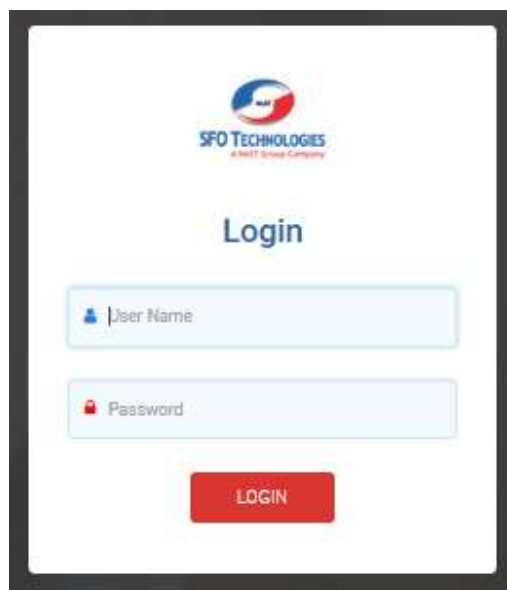


Figure: Login Page

3.2. Dashboard

After login to the system, the dashboard screen will be loaded. This screen will have menu items to select the modules in the proposed system.

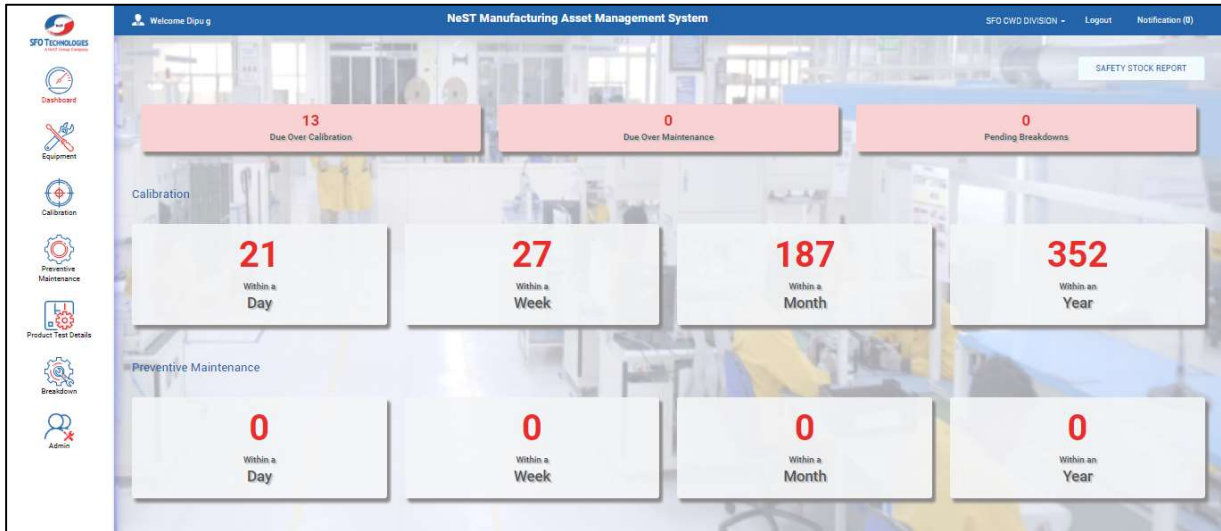


Figure: Dashboard

The user will have provision to switch between the companies so that the system will show the data related to the selected company. User will only get the companies where they have privilege. The dashboard will show the pending calibration, Preventive maintenance, and pending breakdown count. Also, it will show the count of equipment which are due for calibration, Preventive maintenance. When the user clicks on the count, the system will redirect user to the list of corresponding equipment.

Only the privileged users who has access to different modules can access each functionality. The user creation and assigning roles to the user can be done by the system administrator.

3.3. Equipment Master List

The Equipment Master List contains all the details of the Assets which are managed, operated, created, edited using Equipment MasterCard. There will be both Search and advanced Filter option for users to rely upon to access the specified result in the list. The delete functionality will only perform if there are no other related records of the Mastercard.

Equipment Master List will have a button called New Equipment Mastercard which will help the user to create a new equipment Mastercard. There will be an Export button in the top which



will enable the user to take an excel sheet of the entire details of the equipment master list. When the user clicks on the Asset number in a row the user will be redirected to equipment master card details of that Asset, where the user will be able to edit the details of that Asset.

Equipment Master Card List												
										EXPORT	CREATE REQUEST CARD	CREATE EQUIPMENT MASTER CARD
Asset No	Creation Starting Date		Creation Ending Date									
Select an equipment					Search							
Asset Category	Asset Class											
			Clear									
Asset Status	Advance Filter											
Active												
Asset No	Asset Description	Asset Category	Asset Class	Make	Ownership	SFO Part No	Item Part No	Customer Details	Customer Asset Tag	Manufacture Serial NO	Manufacture Model	
82-038-0099-08	CONFORMAL FIXTURE FOR SA MODULE 551P W/O SENSING Z2	CONFORMAL FIXTURE	CONFORMAL COATING	ANDA	Customer	82-038-0099		EXP-CUS-055		NIL	NIL	
C1CC0046	CURING OVEN	TOOL	ELECTRONICS	ACS	Customer							
INS-0003	DIGITAL THERMOMETER	INSTRUMENT	ELECTRONICS		SFO					6714069	FLUKE S1	
INS-0007	DIGITAL THERMOMETER	INSTRUMENT	ELECTRONICS							1910801659	HAKKO 191	
INS-0008	DIGITAL MULTIMETER	INSTRUMENT	ELECTRONICS							981476	MECO 801	
INS-0011	DIGITAL VERNIER CALIPER	INSTRUMENT	MECHANICAL							7186735	MITUTOYO CD-6	
INS-0022	DIGITAL MICROMETER	INSTRUMENT	MECHANICAL							9133350	MITUTOYO 293-52	
INS-0024	LCR METER	INSTRUMENT	ELECTRONICS							MY40105194	AGILENT 4263E	
INS-0027	VERNIER CALIPER	INSTRUMENT	MECHANICAL	MITUTOYO						732880	MITUTOYO 530-5	
INS-0029	DIGITAL THERMOMETER	INSTRUMENT	ELECTRONICS							0013100208002345	HAKKO FG-100	

Figure: Equipment Master (List)

3.4. Equipment Mastercard

Equipment Mastercard is a single master card that contains all data/information of an asset/equipment. The equipment Mastercard page will have THREE tabs.

1. General
2. Comments
3. Documents
4. Status History

3.4.1. Equipment Mastercard (General)

Equipment Mastercard details all the information related to the assets of the organization, mainly Asset Details, calibration, preventive maintenance and break down settings details. Users can go through the details of assets and identify every asset and know the status of them. Asset identification plays an important role in an organization's ability to quickly correlate different sets of information about assets. This specification provides the necessary constructs to uniquely identify assets based on known identifiers and/or known information about the assets.

Asset details

Asset ID ET45IP-56	PR No ---
Asset Description SOLDERING STATION	Supplier PO No
Asset Category	PO Value
Asset Class	PO Value - Currency Code Select Currency code
Make	Estimated Value
Manufacture Serial No	Estd Value - Currency Code Select Currency code
Manufacture Model No	Asset Status Active
Manufacture Part No	Status reason code
Manufacture Date	Previous Instrument code
Vendor Details Select a vendor	Customer Asset Tag
SFD Part No	Date of Procurement
Ownership	Last Updated User System admin
Customer Details Vivish Technologies Pvt Ltd	Critical Spares Used Select an equipment
NRE PO NO	Project Details
Eqp. Test Tower Part <input checked="" type="checkbox"/>	Modality Select a Modality
Test Tower asset ID No Select an equipment	Project
Drawing No (if any)	Date of Transfer 14-09-2018
Revision Number	Custodian
Item Part No	MSN/SAC

ROHS
 NON ROHS
 Not Applicable

Users to be informed
Dipoo g

Figure: Equipment Mastercard General – Asset Details



Field like Asset ID, Asset Category, Asset Class, Vendor Details, Ownership, Customer Details, PO Value Currency Code, Estd Value Currency Code, Asset Status, Status Reason Code, Modality, Template ID, PM Frequency (list view with respective details of each frequency) and PM Responsibility will have dropdowns to select the values from user list.

- The User will be able to select the Number series set by the Admin by clicking the button near to Asset ID field. The Asset ID will be auto generated, if not allowed to enter manually from the number series.
- Number Series: In the case of manual entry of asset number is allowed in number series master, the user is free to skip the next number and he is free to enter any number. If there is a duplication in asset number, the system will alert the user regarding the same.
- Whenever the user changes the Custodian name, a mail will be generated and sent to the corresponding users to be informed.
- Any changes made by the user in the Asset Status will be recorded as Status History. Whoever is changing the status, that user information will be displayed in Asset status history. Remark and document upload are must for changing asset status of Equipment MasterCard.
- There will be fields for capturing Manufacture Date, Manufacture Part Number, Item Part Number, ROHS and Drawing Number.
- There will be provision to select the critical spares used (multiple items) from the Item Card. The item card data will be ported from Navision.
- Assets with Active status will be considered for sending the Alert for Calibration and Preventive Maintenance.
- There will be a text field for revision for Asset in Equipment master card.
- There will be provision to enter the HSN/ASN code in Equipment Master.
- There will be an Asset Transfer feature in the Equipment Master Card, through which the assets can be transferred to other companies. When the Asset is transferred to another company, the system will assign a temporary asset ID for asset in the new company and in the source company the asset status will be changed to 'Transferred'

and the status change will be listed in asset status history. Also, a new Asset record will be created in the new company and the status of the asset will be 'Under maintenance'.

- There will be a label printing option for every asset/equipment containing details of the asset. The color change for the customer assets and the SFO assets will be managed by changing the paper in the printer while the user takes the printout. The System will show an alert message to the user for setting the correct paper in the printer.
- The 'Master EQP Used' Tab in existing Navision system will be removed from the Equipment Master Card.
- There will be an asset calibration section where the user will be able to configure the calibration details like Calibration Required, Frequency, External / Internal, Calibration Responsibility, Calibration Template, Department location.
- Calibration of equipment will be scheduled based on the "Next Calibration Due On" Field.
- The total Posted Calibration count and link to last posted Calibration Record will be shown here.



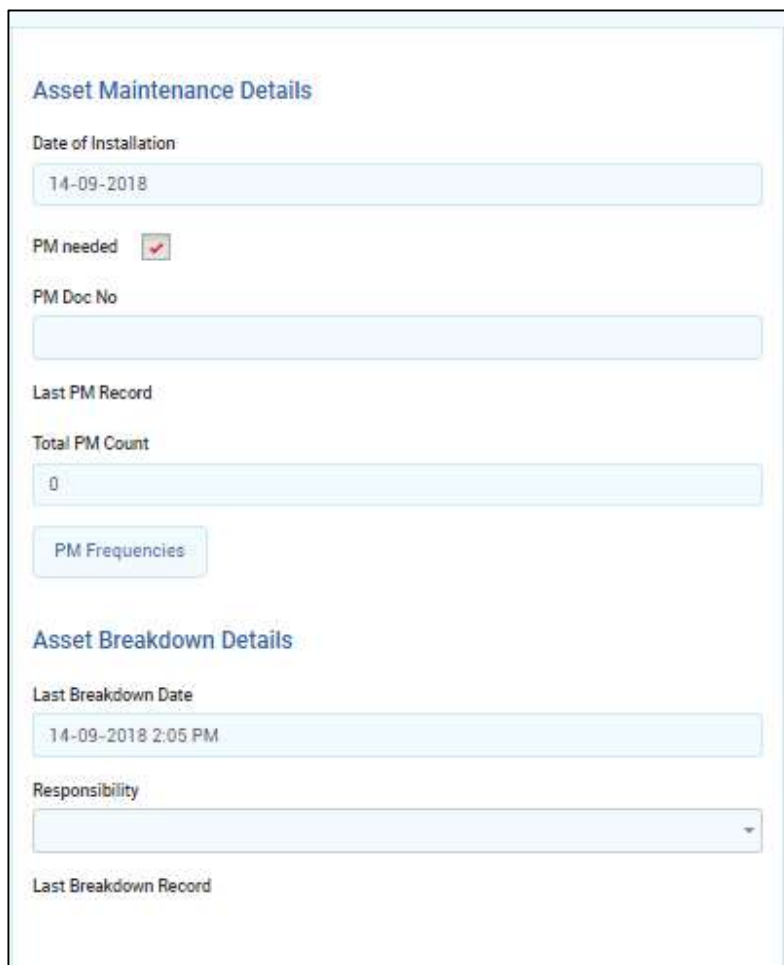
Asset Calibration Details

Previous Ref No CAL-0422	Initial Calibration Date 09-12-2009	Accuracy #1-10 C
Calibration Required <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Next Calibration Due On 12-10-2018	Tolerance
Calibration Frequency -	Revised Calibration Date 14-09-2018	Vendor No Select a vendor
<input type="checkbox"/> External <input checked="" type="checkbox"/> Internal	Calibration Cost 0.0	Departmental Location -
Last Calibration Date 12-04-2018	Report No CAL-0638	Calibration Responsibility -
Special Requirements	Emp No -	Calibration Template ID Select Calibration Template
Calibration Procedure No S000030.05	WC Outdollar	Total Calibration Count 0
Parameters to be calibrated		Last Calibration Record

[List](#)
[Print Label](#)
[Transfer](#)
[Save](#)

Figure: Equipment Mastercard General – Asset Calibration

- Asset Maintenance Details like Date of installation, PM needed, PM Doc no will be entered.
- The total Posted PM count and link to last posted PM Record should be shown in Equipment Master Card.
- The user will be able to set multiple PM frequencies against an equipment by clicking on the PM Frequency Button. PM Frequency button will be enabled if the user ticked on PM needed option.
- Also, the last breakdown date, Breakdown responsibility can be set from here.



The screenshot displays a web form titled "Asset Maintenance Details" and "Asset Breakdown Details".

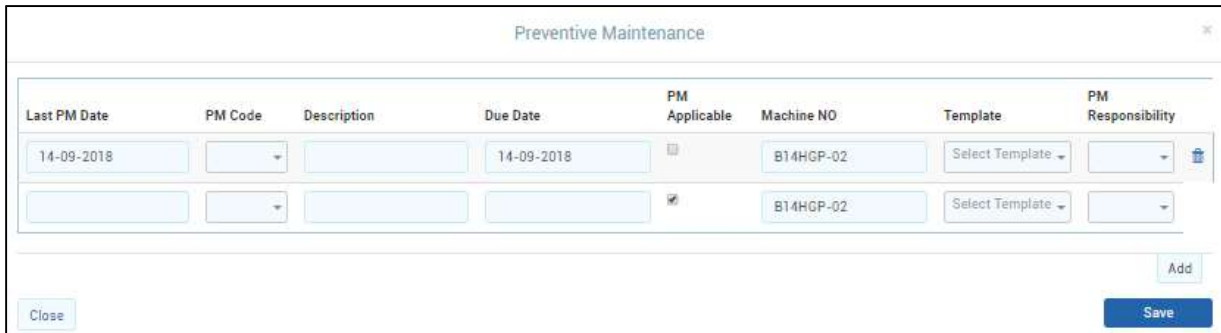
Asset Maintenance Details

- Date of Installation: 14-09-2018
- PM needed:
- PM Doc No: [Empty text field]
- Last PM Record: [Empty text field]
- Total PM Count: 0
- PM Frequencies: [Button]

Asset Breakdown Details

- Last Breakdown Date: 14-09-2018 2:05 PM
- Responsibility: [Dropdown menu]
- Last Breakdown Record: [Empty text field]

Figure: Equipment Mastercard General – Asset Maintenance and Breakdown Details



Last PM Date	PM Code	Description	Due Date	PM Applicable	Machine NO	Template	PM Responsibility
14-09-2018			14-09-2018	<input type="checkbox"/>	B14HGP-02	Select Template	
				<input checked="" type="checkbox"/>	B14HGP-02	Select Template	

Figure: Equipment Mastercard General – Preventive Maintenance Scheduling

3.4.2. Equipment Mastercard (Comments)

The COMMENTS section can be relied by the user to comment on any of the Asset. Comments are based on respective users. All comments will be listed and showed based on the date and time. The logged in user shall be able to edit/ delete /add new comments. He/she can also view the comments of other users. The comments will be hidden to users with customer role. This is for hiding the comments from Auditors / customers.



Figure: Equipment Mastercard Comments

3.4.3. Equipment Mastercard (Documents)

The user will have options to upload the various reports in this screen in PDF, word and excel format. In the functionality where the document will be uploaded, there will be a provision to choose the document type like Bill of Entry and Delivery. These document types can be defined by the admin.

The user will be able to add SharePoint documents by giving the URL of SharePoint here. The user will be able to Open the document by clicking on the document name. The will be able to delete own documents he uploaded to the system.



Figure: Equipment Mastercard Documents

The user will be able to add the new document by clicking on the “Add document” button. The user needs to give the description, document type, file type. If document type is Sharepoint link then a URL need to be provided, else a file needs to be uploaded.

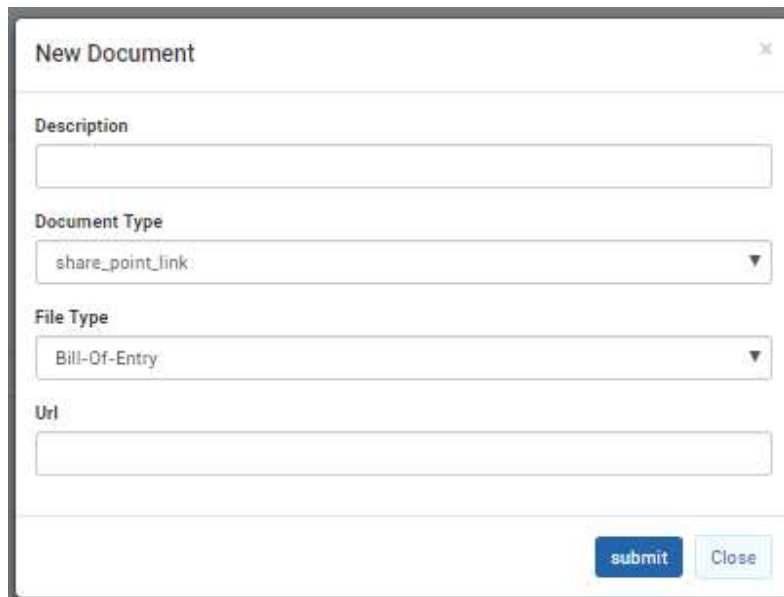
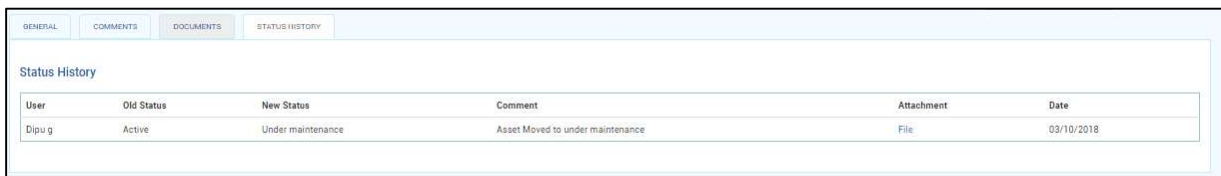


Figure: Equipment Mastercard Documents – Add document

3.4.4. Equipment Mastercard (Status History)

The status change for the Asset will be listed here



User	Old Status	New Status	Comment	Attachment	Date
Dipu g	Active	Under maintenance	Asset Moved to under maintenance	File	03/10/2018

Figure: Equipment Mastercard Documents – Status History

3.5. Calibration Details

The calibration functionality will have five sub features namely Calibration List, Calibration Record, Work Instruction ID calibration, Planning Calendar Calibration and Posted calibration. Auto mail sending feature will be integrated for alerting the concerned personnel about the calibration scheduling date. There will be a notification screen for the user who logged in to the system for the Calibration schedules which are upcoming or Due for attending.

3.5.1. Calibration List

This functionality will store and maintain the list made in the Calibration Record. Users can view the total list of calibration and click on the desired calibration number to access all the details of the respective calibration. A search option will be incorporated for the users to conveniently search the data.



Figure: Calibration List - Search

Calibration No	Asset No	Asset Name	Asset Category	Document Date	Done On	Start Date	End Date	Frequency	Next Check Due On	
CAL-10576	TC-000054	Facts Power setup	TEST FIXTURE	21-07-2016	21-07-2016	20-10-2016	13-09-2018	91D	20-10-2016	
CAL-11280	TC-000041	ENERCON UTS	TEST FIXTURE	07-01-2017	07-01-2017	08-04-2017	07-01-2017	91D	08-04-2017	
CAL-11375	INS-2316	PRESSURE GAUGE		07-02-2017	07-02-2017	09-08-2017	07-02-2017	183D	09-08-2017	
CAL-11376	INS-2317	PRESSURE GAUGE	GAUGE	07-02-2017	07-02-2017	09-08-2017	07-02-2017	183D	09-08-2017	
CAL-11392	INS-0041	REFLOW OVEN	INSTRUMENT	08-02-2017	07-01-2017	06-01-2018	07-01-2017	365D	06-01-2018	
CAL-11393	INS-0055	BGA REWORK STATION	INSTRUMENT	08-02-2017	06-01-2017	06-01-2018	06-01-2017	365D	06-01-2018	
CAL-11394	M-24	REFLOW	SMT	08-02-2017	07-01-2017	06-01-2018	07-01-2017	365D	06-01-2018	
CAL-11405	INS-2761	DIGITAL VERNIER CALIPER	EQUIPMENT	09-02-2017	09-02-2017	08-08-2017	09-02-2017	180D	08-08-2017	
CAL-11410	INS-2319	PRESSURE GAUGE	GAUGE	11-02-2017	11-02-2017	13-08-2017	11-02-2017	183D	13-08-2017	
CAL-11415	INS-2466	PRESSURE GAUGE	GAUGE	11-02-2017	11-02-2017	13-08-2017	11-02-2017	183D	13-08-2017	
CAL-11417	INS-0873	HOT PLATE	EQUIPMENT	11-02-2017	17-01-2017	16-01-2018	17-01-2017	365D	16-01-2018	
CAL-11418	INS-2197	DIGITAL HOT PLATE	EQUIPMENT	11-02-2017	17-01-2017	16-01-2018	17-01-2017	365D	16-01-2018	

Figure: Calibration List

The user will be able to click on the link in calibration number to get the details of calibration for an asset. There will be a button named Create Calibration Record, which will guide the user to a page where they can create Calibration Record.

3.5.2. Calibration Record

Calibration Record tab is used for creating and posting Calibration Record. This tab stands as a documented proof that the equipment was calibrated, and if out of calibration what was done to correct it. Calibration record will have following subsections, namely:

1. General
2. Master EQP used
3. Comments
4. Documents

3.5.3. Calibration Record (General)

The general tab documents all details of calibrations and maintains all records pertaining to calibrations. In the template, a user can find calibration number, Asset number and all other pertinent information of the Asset. Adjacent to that, the user also finds certain text fields and dropdowns showing various statistics of the approving procedure and reports.

Users will have dropdowns for fields like Calibration Number, Asset number, Approved by, Sticker Affix, External Calibration Fee, Format Number and Report Number. Below it, user can find a template block which details various parameters, statistics and measurements during the calibration time, which gives users and organizations implement effective calibration process.

The Label Print button, below the report block will be able to print two types of labels (namely Limited Use, Valid Use). On clicking the List Button in the right bottom of the page (below the Report Block) users will be redirected to the list of calibration records. The Equip Master Card, adjacent to the List Button, will redirect the users to the corresponding Asset's equipment Mastercard.

There will be a field titled "To be approved" by where the user who is creating the calibration record can manually assign the name of who is going to approve the calibration record. Once the user does this, the approving authority can see the calibration record which is awaiting approval. The Approved by will show the name of the authority who will approve the calibration record along with the date and time of approval. The user can only post the calibration record when it is approved by the authority. Once the user has posted the calibration record, it will be shown in the Posted Calibration History.

The Calibration Parameters / Measurements details in the screen will show the various parameters of calibration detailed in the Work Instruction ID calibration tab. This list will be updated based on the selection of Asset number.

While updating the Master error filed in calibration record the following formulae will work;

```
"Corrected Reading" =("Actual Reading"- "Master Error");
IF(("Required Observation" - "Quoted Error") <= "Corrected Reading") AND
("Corrected Reading" <= ("Required Observation" + "Quoted Error")) THEN
Status :=OK
ELSE
Status :=NOT OK;
"Observed Error" = "Corrected Reading" - "Required Observation"
```

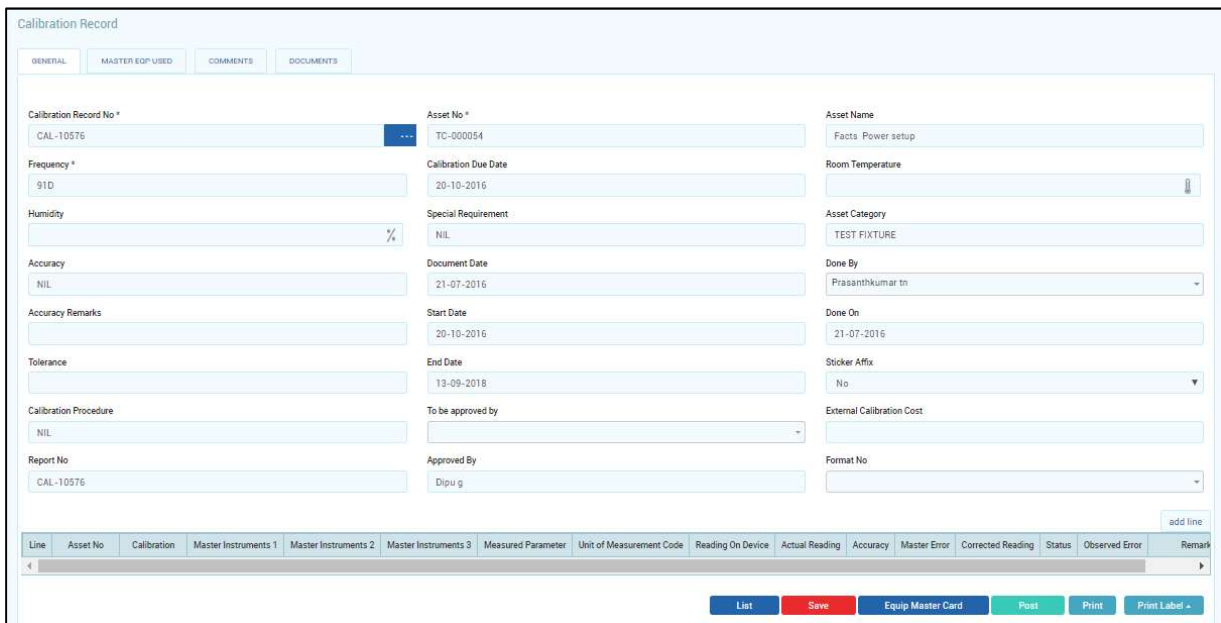


Figure: Calibration Record (General)

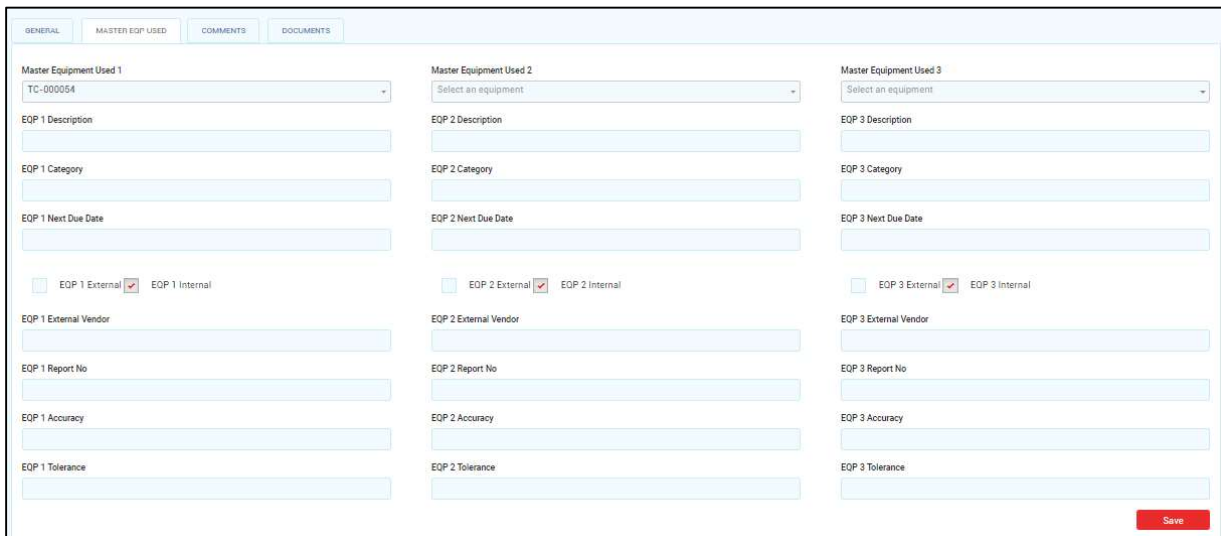
3.5.4. Calibration Record (Master EQP used)

The master EQP contains all the details of the equipment used for calibrating the main equipment. A maximum detail of three master equipment can be recorded and stored in this

tab. Along with the name of the equipment used, each of these sections will have fields like Description, Category, Next due date, Internal/External field, External vendor, Report number EQP, Accuracy EQP and Tolerance EQP.

If the Master EQP of the Equipment Master Card is selected, then the same should be automatically reflected in the Master EQP used in the Calibration Record.

If the Accuracy EQP of an equipment is filled, then the respective Tolerance EQP fields must also be filled.



The screenshot shows a web-based form for recording calibration data. It features three columns, each representing a different piece of equipment used in the process. Each column has a dropdown menu for selecting the 'Master Equipment Used' (e.g., 'TC-000054' for the first column). Below each dropdown are text input fields for 'Description', 'Category', and 'Next Due Date'. There are also radio button options to specify if the equipment is 'External' or 'Internal'. Further down, there are text input fields for 'External Vendor', 'Report No', 'Accuracy', and 'Tolerance'. A red 'Save' button is positioned at the bottom right of the form.

Figure: Calibration Record (Master EQP used)

3.5.5. Calibration Record (Comments)

Users can quote what they want to say in the comments section. Each comment will be shown with the name of commented user, time and date of the comment.



Figure: Calibration Record (Comments)

3.5.6. Calibration Record (Documents)

User will be able to upload the documents related to calibration.

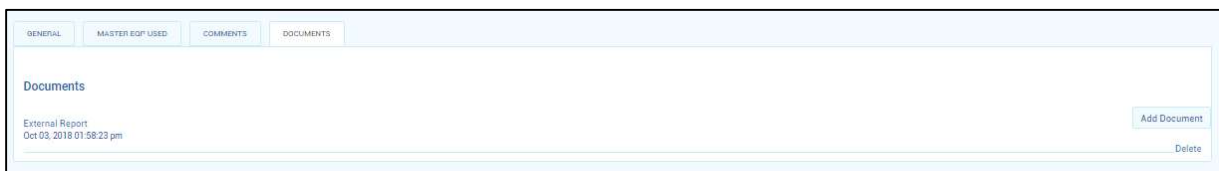


Figure: Calibration Record (Documents)

3.6. Work Instruction ID calibration

3.6.1. Work Instruction ID Calibration (List)

This will list all the work instruction ID Templates for calibration. There be search options based on the Template ID, Description, status etc.. When user click on the “Create Work Instruction ID” button, the user will be redirected to a page for creating work instruction ID template.

Calibration - Work Instruction ID List CREATE WORK INSTRUCTION ID

No: Status: Created By:

Description: Category: Modified By:

Creation Starting Date: Creation Ending Date: Certified By:

No	Description	Category	Status	Created By	Creation Date	Certified By	Last Modified Date	Modified By	
INS-0918	INS-0918		CERTIFIED		28-01-2011		13-09-2018		
INS-0461	INS-0461		CERTIFIED		28-01-2010		13-09-2018		
INS-0570	INS-0570		CERTIFIED		29-01-2010		13-09-2018		
INS-0395	INS-0395		CERTIFIED		28-01-2010		13-09-2018		
INS-0531	INS-0531		CERTIFIED		29-01-2010		13-09-2018		
INS-1595	PRESSURE GAUGE	ADAPTER	CERTIFIED		29-07-2018	Dom kid	02-10-2018	Dom kid	
INS-0899	INS-0899		CERTIFIED		09-08-2012		13-09-2018		
INS-0724	INS-0724		CERTIFIED		16-03-2010		13-09-2018		
INS-0617	INS-0617		CERTIFIED		29-01-2010		13-09-2018		
INS-0367	INS-0367		CERTIFIED		28-01-2010		13-09-2018		

Figure: Work Instruction ID calibration (List)

3.6.2. Work Instruction ID Calibration

The page will have fields for Template ID, Description, Category, Status (a dropdown with values NEW, CERTIFIED and IN PROGRESS), , Creation Date, Modified By, Last Modified Date and Certified By.

In the status tab, user can edit the NEW value when he/she enters the section for the first time. User can edit the required fields and save the entered details and get it certified. Once it is certified, thereafter, a user can only edit the values when the status is put as IN PROGRESS. In the template is in CERTIFIED status, the user cannot edit the Work Instruction ID calibration page. Only the CERTIFIED Templates will be available for template selection in equipment master.

A Calibration Parameters / Measurements details will be showed below the page with fields Line No, Template ID, Measured Parameter, Required Ops, Quoted Error and Unit of Measurement, which will summarize the calibration process with its findings to implement the right solution. User will be able to Add or delete

Below the Calibration Parameters / Measurements details, there will be two fields, with namely SAVE and LIST buttons, where the former will help the users to submit the instructions to calibrate respective Assets and the latter directs users to the whole List of Work Instruction ID calibration.

Work Instruction ID calibration

GENERAL

Template *
INS-0570

Category *
-

Status
CERTIFIED

Description *
INS-0570

Modified By
-

Certified By
-

Created By
-

Last Modified date
13-09-2019

Creation Date
29-01-2010

Line No	Template ID	Measured Parameter *	Required Observation *	Quoted Error (+/-) *	Unit Of Measurement Code
1000	INS-0570	Average reading of measured parameter is Actual Read	0.0	0.0	A
1001	INS-0570	TORQUE Setting -1 0.1 N.M (0.15; 0.16; 0.16;	0.1	0.025	N.M
1002	INS-0570	TORQUE Setting-2- 0.19 N.M (0.27; 0.25; 0.24;	0.19	0.0475	N.M
1003	INS-0570	TORQUE Setting -3 0.28 N.M (0.34; 0.30; 0.32;	0.28	0.07	N.M
1004	INS-0570	TORQUE Setting -4 0.37 N.M (0.42; 0.41; 0.45;	0.37	0.0925	N.M
1005	INS-0570	TORQUE Setting -5 0.46 N.M (0.46; 0.51; 0.44;	0.46	0.115	N.M
1006	INS-0570	TORQUE Setting -6 0.55 N.M (0.53; 0.66; 0.54;	0.55	0.1375	N.M

List save

Figure: Work Instruction ID calibration (General)

3.7. Planning Calendar Calibration

For identifying the calibration or preventive maintenance due date through a calendar mechanism. Planning calendar will assist in recording the schedule of calibration to organize the administrative activities. The General tab of Planning Calendar Calibration will have Asset Filter and Date Filter fields on the top. Asset filter helps the user to filter the details of the Assets. It will be appearing as a dropdown. The Date Filter will help users to filter out the calibration details according to the entered date range. There will be a Filter in dropdown with value "with in a day , With in a Week, With in a Month, With in a Year". This will help users to view the calibration details based on the respective filter chosen.

Planning Calendar

GENERAL

Machine Filter: Start Date: End Date:

Day:

Machine No	Machine Description	03/10/2018	04/10/2018	05/10/2018	06/10/2018	07/10/2018	08/10/2018	09/10/2018	10/10/2018	11/10/2018	12/10/2018	13/10/2018	14/10/2018	15/10/2018	16/10/2018	17/10/2018	18/10/2018
RAF-0011	HEATING GUN																
B14HGP-02	HEATING GUN																
B14SIP-41	SOLDERING STATION																
B14SIP-51	SOLDERING STATION																
B14SIP-56	SOLDERING STATION																
B14SIP-70	SOLDERING STATION																
B14SIP-71	SOLDERING STATION																
B14SIP-72	SOLDERING STATION																
B14SIP-73	SOLDERING STATION																
B14SIP-74	SOLDERING STATION																

Figure: Planning Calendar Calibration

3.8. Posted Calibration

A posted calibration record contains all the records of the conducted accuracy checks of calibration for each equipment.

3.8.1. Posted Calibration Record List

This functionality will list all the posted Calibration Record. Users can view the total list of posted calibration and click on the desired calibration number to access all the details of the respective calibration. A searching option will be incorporated for the users to conveniently search the data.

Posted Maintenance Record List EXPORT

Document No: Asset No: Done By:

Frequency: Asset Category: Approved By:

Creation Starting Date: Creation Ending Date: Asset Class: Search Clear

Done On Starting Date: Done On Ending Date:

Document No	Asset No	Asset Description	Document Date	Done On	Start Date	End Date	Frequency	PM Due Date	
Doc 12	RAF-0011	HEATING GUN	16-05-2018	16-05-2018	16-05-2018	16-05-2018	7D	23-05-2018	
54	B14SIP-85	SOLDERING STATION	21-05-2018	21-05-2018	21-05-2018	21-05-2018	7D	28-05-2018	
84	B14SIP-84	SOLDERING STATION	21-05-2018	21-05-2018	21-05-2018	21-05-2018	10D	31-05-2018	
83	B14SIP-83	SOLDERING STATION	21-05-2018	21-05-2018	21-05-2018	21-05-2018	7D	28-05-2018	
1404	B14TPP-04	TINNING POT	01-05-2018	03-05-2018	01-05-2018	03-05-2018	7D	30-05-2018	
1406	B14TPP-06	TINNING POT	23-05-2018	03-08-2018	23-05-2018	23-05-2018	7D	10-08-2018	
NUM-0019	NUM-0018	num 0018 desc		03-08-2018			7D	10-08-2018	

Figure: Posted Calibration Record List

3.8.2. Posted Calibration Record

On clicking the calibration number from the posted calibration record list, the Posted Calibration Record page will be loaded, where they can view all the results of calibrations for each asset.

Posted Calibration Record will have three sub tabs, namely,

1. General
2. Master EQP Used
3. Comments
4. Documents

3.8.2.1. Posted Calibration Record (General)

GENERAL tab will contain information like Calibration Number, Asset Number, Asset Name, Frequency, Calibration Due Date, Room Temperature, Humidity, Special Requirement, Accuracy, Accuracy Regards, Tolerance and Asset Category.

Adjacent to it in the right side, the GENERAL tab will have fields like Approved By, Document Date, Done On, Done By, End Date, Sticker Affix, Calibration Procedure, External Calibration File, Format Number and Report Number.

Towards the bottom of the tab, there will be a Report Block containing all the information regarding the calibration process. Users can analyze the information for knowing the outcome

of the calibration process. Towards the right bottom of the GENERAL tab, there will be three fields namely;

1. **Label Print:** The Label Print button, below the report block will be able to print two types of labels (namely Limited Use, Valid Use).
2. **Print:** Users can click on the print field to obtain a printed copy of the calibration record.
3. **List:** On clicking the List Button in the right bottom of the page (below the Report Block) users will be redirected to the list of posted calibration records.

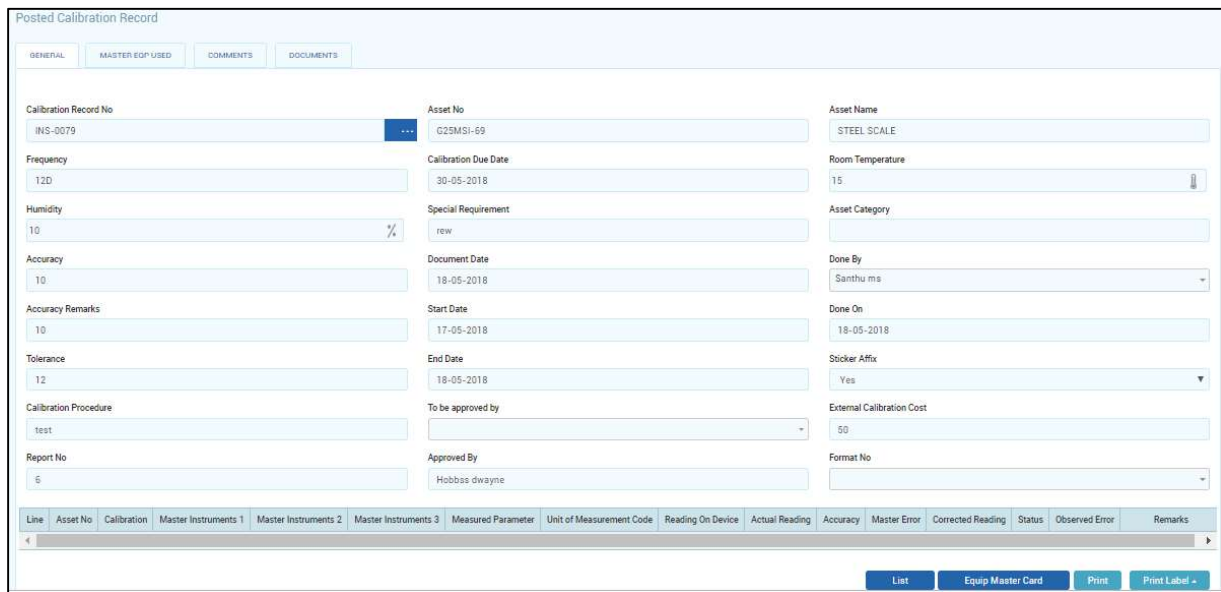


Figure : Posted Calibration Record (General)

3.8.2.2. Posted Calibration Record (Master EQP Used)

The master EQP contains all the details of the equipment used for calibrating the main equipment. A maximum detail of three master equipment can be recorded and stored in this tab. Along with the name of the equipment used, each of these sections will have fields like Description, Category, Next due date, Internal/External field, External vendor, Report number EQP, Accuracy EQP and Tolerance EQP.

Posted Calibration Record

GENERAL MASTER EQP USED COMMENTS DOCUMENTS

Master Equipment Used 1	Master Equipment Used 2	Master Equipment Used 3
G25MSI-69	Select an equipment	Select an equipment
EQP 1 Description desc	EQP 2 Description	EQP 3 Description
EQP 1 Category cat	EQP 2 Category	EQP 3 Category
EQP 1 Next Due Date 18-05-2018	EQP 2 Next Due Date	EQP 3 Next Due Date
<input type="checkbox"/> EQP 1 External <input checked="" type="checkbox"/> EQP 1 Internal	<input type="checkbox"/> EQP 2 External <input checked="" type="checkbox"/> EQP 2 Internal	<input type="checkbox"/> EQP 3 External <input checked="" type="checkbox"/> EQP 3 Internal
EQP 1 External Vendor ext	EQP 2 External Vendor	EQP 3 External Vendor
EQP 1 Report No rep	EQP 2 Report No	EQP 3 Report No
EQP 1 Accuracy .acc	EQP 2 Accuracy	EQP 3 Accuracy
EQP 1 Tolerance tol	EQP 2 Tolerance	EQP 3 Tolerance

[Save](#)

Figure: Posted Calibration Record (Master EQP Used)

3.8.2.3. Posted Calibration Record (Comments)

Comments related to posted calibration records can be filed in the comments tab.

Posted Calibration Record

GENERAL MASTER EQP USED COMMENTS DOCUMENTS

Comments

System admin
nice work

Enter your comments

[Save](#)

Figure: Posted Calibration Record (Comments)

3.8.2.4. Posted Calibration Record (Documents)

User will be able to upload the documents related to calibration.



Figure: Posted Calibration Record (Documents)

3.9. Preventive Maintenance Details

The module will record and keep all the details of preventive maintenance of the equipment. Auto mail sending feature will be integrated for alerting the concerned personnel about the PM scheduling date. There will be a notification for the user who logged in to the system for the Preventive Maintenance schedules which are upcoming.

3.9.1. Preventive Maintenance Record List

This page will list all the Maintenance Record. User can view the total list of Maintenance record and click on the desired document number to access all the details of the respective Maintenance Record. There will be two buttons namely, Export and Create Preventive Maintenance Record. There will be search options based on Document Number, Asset ID / Name.

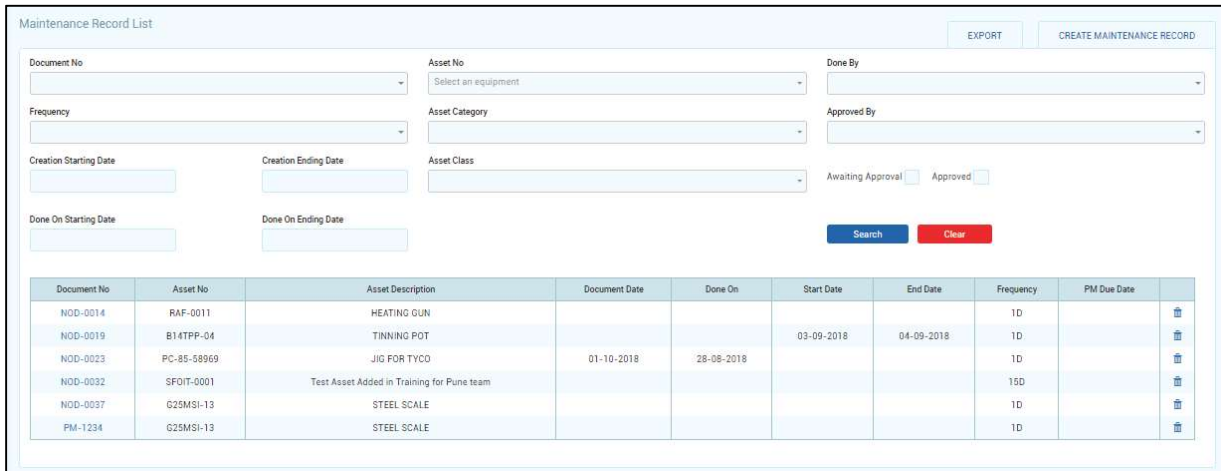


Figure: Preventive Maintenance Record List

3.9.2. Preventive Maintenance Details

3.9.2.1. Maintenance Record (General)

The tab will provision to enter all the details related to the preventive maintenance of equipment or assets. It includes various fields like Document No, Asset ID, Asset Name,

Document Date, Frequency, Modality, Posting Date, PM Due Date, PM Done On and PM Done By. The PM Due Date is determined based on the given frequency of the equipment. The frequency field will be enabled to choose from the PM frequencies of the equipment. The PM Parameters / Measurements details in the screen will show the various parameters of preventive maintenance detailed in the Work Instruction ID - PM tab.

There will be a field titled To be approved by where the user who is creating the Maintenance Record can manually assign the name of who is going to approve the Maintenance record. Once the user does this, the approving authority can see the maintenance record which is awaiting approval. The Approved by button will show the name of the authority who will approve the maintenance record along with the date and time of approval. The user can only post the maintenance record when it is approved by the authority. Once the user has posted the maintenance record, it will be shown in the Posted Preventive Maintenance List.

Preventive Maintenance Record

GENERAL

Document No: NOD-0032 | Frequency: 15D | Done On: []

Document Date: [] | Modality: [] | Done By: []

Asset ID: SFOIT-0001 | Work Order: [] | To Be Approved By: Dipu george

Asset Name: Test Asset Added in Training for Pune team | Start Date: [] | Approved By: []

Posting Date: [] | End Date: [] | Approved Date: []

PM Due Date: [] | Calibration Required []

Sl No	Document	Check Point	Status	Remarks
1000	NOD-0032	Check the Cover of Equipment	OK	Done
1001	NOD-0032	Check the Power switch	Not Applicable	Done
1002	NOD-0032	Check the Motor	OK	Done

[List] [Save] [Approve] [Print Label]

Figure: Maintenance Record (General)

3.9.3. Work Instruction ID PM – List

This will list all the work instruction ID Templates for Preventive Maintenance. There be search options based on the Template ID, Description, status etc. When user click on the “Create Work Instruction ID” button, the user will be redirected to a page for creating work instruction ID template.

Maintenance - Work Instruction ID List CREATE WORK INSTRUCTION ID

Template ID: Status:
 Description: Modified By:
 Creation Starting Date: Creation Ending Date: Certified By:






Template Id	Description	Status	Creation Date	Last Modified Date	Certified By	Modified By	
M-06-MONTHLY	M-06 for MONTHLY	CERTIFIED	22-04-2014	13-09-2018	Dipu g	Dipu g	
M-06-QTRLY	M-06 for Quarterly	CERTIFIED	22-04-2014	13-09-2018	Dipu g	Dipu g	
M-06-SEMIANNUAL	M-06 for SEMIANNUAL	CERTIFIED	22-04-2014	13-09-2018	Dipu g	Dipu g	
M-12-QTRLY	M-12 for QUARTERLY	CERTIFIED	22-04-2014	13-09-2018	Dipu g	Dipu g	
M-12-SEMIANNUAL	M-12 for SEMIANNUAL	CERTIFIED	22-04-2014	13-09-2018	Dipu g	Dipu g	

Figure: Work Instruction ID PM - List

3.9.4. Work Instruction ID PM

This module will contain fields for Number, Description, Status (a dropdown with values NEW, CERTIFIED and IN-PROGRESS), Creation Date, Last Modified Date, Modified By and Certified By.

In the status tab, user can edit the NEW value when he/she enters the section for the first time. User can edit the required fields and save the entered details and get it certified. Once it is certified, thereafter, a user can only edit the values when the status is put as IN PROGRESS. In the template is in CERTIFIED status, the user cannot edit the Work Instruction ID calibration page. Only the CERTIFIED Templates will be available for template selection in equipment master.

A PM Parameters / Measurements details will be showed below the page with fields SI No, Template ID and Check Points which will summarize the preventive maintenance process with its finding to implement the right solution.

Below the Report Block, there will be TWO buttons, namely SAVE and LIST, where the former one will save the form for Work Instruction ID PM and the latter will show the list of all saved work instruction ID PM.

Work Instruction ID PM

GENERAL

Template: PTEMP-0046 Description: PM Checklist for Cochis SFO- HMT Status: CERTIFIED

Modified By: Issacc peter Creation Date: 03-10-2018 Last Modified Date: 03-10-2018

Certified By: Pm manager

Sl No	Template ID	Check Points
1000	PTEMP-0046	Check the Cover of Equipment

add line

List save

Figure: Work Instruction ID PM

3.9.5. Planning Calendar PM

For identifying the preventive maintenance due date through a calendar mechanism. Planning calendar will assist in recording the history of preventive maintenance to organise the administrative activity. This tab will have Asset Filter and Date Filter fields on the top. Asset Filter helps the user to filter the details of the Assets, it will be appearing as a dropdown. The Date Filter will help users to filter out the calibration details according to the entered date range. There will be a Filter in dropdown with value "with in a day , With in a Week, With in a Month, With in a Year". Delayed items will be marked in red.

Planning Calendar

GENERAL

Machine Filter: Select an equipment Start Date: End Date:

Day: Search Clear

Machine No	Machine Description	03/10/2018	04/10/2018	05/10/2018	06/10/2018	07/10/2018	08/10/2018	09/10/2018	10/10/2018	11/10/2018	12/10/2018	13/10/2018	14/10/2018	15/10/2018	16/10/2018	17/10/2018	18/10/2018	19/10/2018	20/10/2018	
RAF-0011	HEATING GUN																			
B14HGP-02	HEATING GUN																			
B14SIP-41	SOLDERING STATION																			
B14SIP-51	SOLDERING STATION																			
B14SIP-56	SOLDERING STATION																			
B14SIP-70	SOLDERING STATION																			
B14SIP-71	SOLDERING STATION																			
B14SIP-72	SOLDERING STATION																			
B14SIP-73	SOLDERING STATION																			
B14SIP-74	SOLDERING STATION																			

Figure: Planning Calendar PM

3.9.6. Posted Maintenance Record List

On clicking on the Posted Preventive maintenance list, users will be directed to Posted Maintenance Record list page, on clicking the document number from the list, the Posted Maintenance Record page will be loaded, where they can view all the results of maintenance for each asset. A searching option will be incorporated for the users to conveniently search the data.

Posted Maintenance Record List EXPORT

Document No: Asset No: Done By:

Frequency: Asset Category: Approved By:

Creation Starting Date: Creation Ending Date: Asset Class: Search Clear

Done On Starting Date: Done On Ending Date:

Document No	Asset No	Asset Description	Document Date	Done On	Start Date	End Date	Frequency	PM Due Date	
Doc 12	RAF-0011	HEATING GUN	16-05-2018	16-05-2018	16-05-2018	16-05-2018	7D	23-05-2018	
54	B14SIP-85	SOLDERING STATION	21-05-2018	21-05-2018	21-05-2018	21-05-2018	7D	28-05-2018	
84	B14SIP-84	SOLDERING STATION	21-05-2018	21-05-2018	21-05-2018	21-05-2018	10D	31-05-2018	
83	B14SIP-83	SOLDERING STATION	21-05-2018	21-05-2018	21-05-2018	21-05-2018	7D	28-05-2018	
1404	B14TFPP-04	TINNING POT	01-05-2018	03-05-2018	01-05-2018	03-05-2018	7D	30-05-2018	
1406	B14TFPP-06	TINNING POT	23-05-2018	03-08-2018	23-05-2018	23-05-2018	7D	10-08-2018	
NUM-0019	NUM-0018	num 0018 desc		03-08-2018			7D	10-08-2018	
NUM-0026	B14SIP-78	SOLDERING STATION					91D		
NOD-0020	B14TFPP-06	TINNING POT		10-09-2018			1D	11-09-2018	
NOD-0027	SC-458-4	JIG		03-09-2018	04-09-2018	17-09-2018	1D	04-09-2018	
NOD-0029	RAF-0008	TEST ASSET Added by Rafeek2	04-09-2018	04-09-2018	04-09-2018	05-09-2018	10D	14-09-2018	

Figure: Posted Maintenance Record List

3.9.7. Posted Maintenance Record

Users can access all the details of posted maintenance record in this page. There will be a report print button to take the print of the posted maintenance record report. The Print Label functionality will be enabled to print two types of labels and can be chosen with two separate size and content. When user click on the Print Report, the report will also contain the modality value. Report Heading will be changed with respect to the number series of the record. Validation & Re-validation: PM Report for jig/fixture/stencil category assets will be generated with separate heading "Validation and Re-validation report". The PM report will have Done By and Approved By information

Posted Preventive Maintenance Record

GENERAL

Document No: NUM-0026 Frequency: 91D Done On:

Document Date: Modality: Done By:

Asset ID: B14SIP-78 Work Order: To Be Approved By: Raju rahul

Asset Name: SOLDERING STATION Start Date: Approved By: System admin

Posting Date: 09-08-2018 End Date: Approved Date:

PM Due Date: Calibration Required:

Sl No	Document	Check Point	Status	Remarks
1000	NUM-0026	check points test	Not Ok	
1001	NUM-0026	EST	OK	

List Print Print Label

Figure: Posted Maintenance Record

3.10. Breakdown Details

Breakdown record tab is used to create and post breakdown record. If any Asset is breaking down or any asset is malfunctioning, breakdown record page is used to inform, review and later approve the breakdown process. Breakdown records are created for Product Test Item or Assets.

3.10.1. Breakdown Records List

This functionality will list all the Breakdown Record. User can view the total list of breakdowns and click on the desired breakdown number to access all the details of the respective breakdown. There will be two buttons namely, Export and Create Breakdown Record. Also, there is a search option for searching the breakdown records.

Breakdown Record

EXPORT CREATE BREAKDOWN RECORD

Breakdown No: Informed Date Starting: Informed Date Ending: Informed By:

Resource Type: Breakdown Date Starting: Breakdown Date Ending: Done By:

Validation Required: Calibration Required: Document Date Starting: Document Date Ending: Section: GE - RFG

Creation Starting Date: Creation Ending Date: Done on Date Starting: Done on Date Ending:

Search Clear

Breakdown No	Asset No	Asset Name	Test Item	Document Date	Section	Breakdown Date Time	Total Delay	Total Time	
BREAK-10002	AKSH-0004	desktop ram		01-10-2018	BLR-GE ENRGY WINPICH	01-10-2018	3	4	

Figure: Breakdown Record List

3.10.2. Breakdown Record (General)

The general tab will have fields for entering Asset details, date of occurrence, person who has informed the breakdown, person who has tested the breakdown and approval. The Production Lead will inform about breakdown, Test Engineer will initiate the breakdown work and QA Department will approve the breakdown record. There will respective fields for these departments to fill.

When Breakdown is created have an option to add from where it is created: for Equipment Master Card or Product Test Item. If it is created for Product Test Item, added an option to select Test Part.

3.10.2.1. Create Breakdown Record

The users will be able to create breakdown record. If the user has privilege to inform the breakdown can create a breakdown record by clicking on the “Create Break Down Record” in the breakdown record list. The user will be able to select “Breakdown No “, Resource Type, Informed By, Document Date, Asset / Product Test Item, Informed Date Time, Breakdown Date Time, Section (Modality), and need to enter the Problem Description.

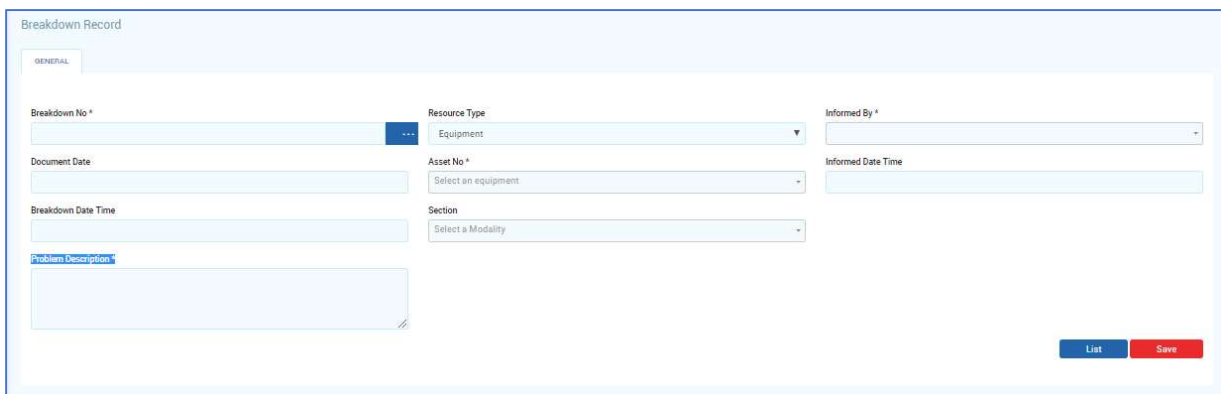


Figure: Create Breakdown Record

There will be a Save button to save the breakdown record. Adjacent to the save button, there will be a LIST button which will guide users to the Breakdown List.

When the user click on “Save”, a mail will be sent to the responsible person mentioned in the equipment master copied to other stakeholders.

3.10.2.2. Test Engineer Review on Breakdown Record

When a Test Engineer with necessary privilege on the system clicks on the breakdown record number from the breakdown record list he will get the following screen.

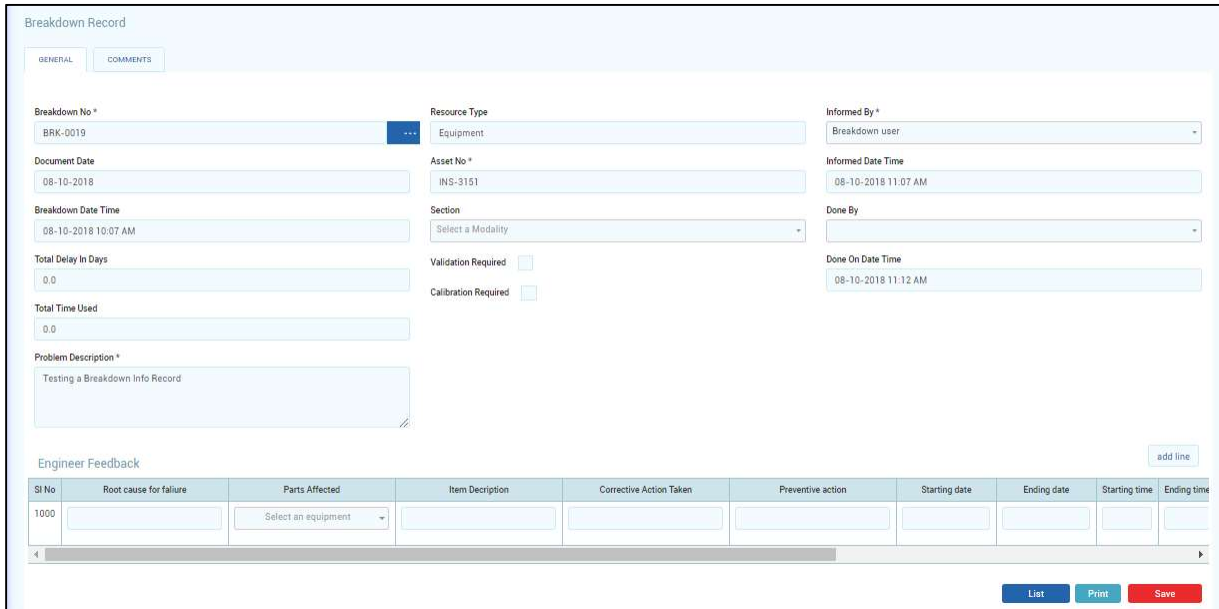


Figure: Breakdown Record (Test Engineer Review)

The test engineer will be able to fill the fields like Done by, Done on Date, Engineer Feedback etc. The Breakdown Parameters / Measurements details will show various statistics of the breakdown process in respect to corresponding Assets. Total time used in Breakdown Record is the value getting by calculating Breakdown Date time and Done on Date time. After filling the Done by, Done on Date and engineer feedback, the test engineer will be able to save the record.

The Test engineer will be able to request “QA Approval Required” by click on check box “QA required?” field after saving this the system will send a mail for QA Approval for stakeholders. Otherwise no QA action is initiated and no Alert Mail is required. If no QA approval is required, the test engineer will be able to post the breakdown record.

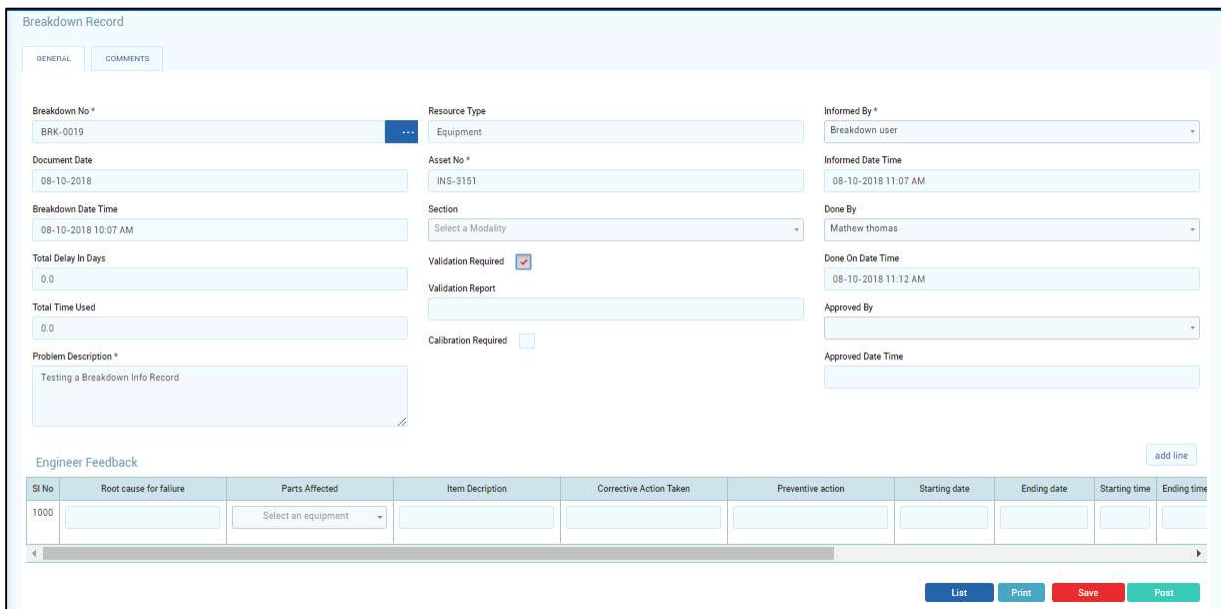
If QA Approval is required, then the user has to fill the Approved by field, and Update the QA Report SharePoint URL filed and will be able to post the breakdown record. The system will send the QA Approval Completion Mail after the same.

While posting the breakdown record, if the calibration required field is selected, then it should automatically send a mail to the calibration department. , if the validation required field is selected, then it should automatically send a mail to the validation department.

The System will send email with three set of mail sending in Breakdown module. The three levels of Emails are Breakdown Alert Mail, Test Engg Review Mail, QA Approval Completion Mail.

1. **Breakdown Alert Send Mail** - Mail sent when the breakdown is informed.
2. **Test Engineer Review Over Mail** - Mail sent after the review of engineer.
3. **QA Approval Completion Mail** - Mail sent by QA to approve the breakdown record.

There will a provision to print the Breakdown Report, which will have all the details in the breakdown record with the fields Raised By, Done By and Approved by information at the bottom of the report.



Breakdown Record

GENERAL COMMENTS

Breakdown No * BRK-0019 Resource Type Equipment Informed By * Breakdown user

Document Date 08-10-2018 Asset No * INS-3151 Informed Date Time 08-10-2018 11:07 AM

Breakdown Date Time 08-10-2018 10:07 AM Section Select a Modality Done By Mathew thomas

Total Delay In Days 0.0 Validation Required Done On Date Time 08-10-2018 11:12 AM

Total Time Used 0.0 Validation Report Approved By

Problem Description * Testing a Breakdown Info Record Calibration Required Approved Date Time

Engineer Feedback add line

SI No	Root cause for failure	Parts Affected	Item Description	Corrective Action Taken	Preventive action	Starting date	Ending date	Starting time	Ending time
1000		Select an equipment							

List Print Save Post

Figure: Breakdown Record (QA Approval Required)

3.10.3. Breakdown Record (Comments)

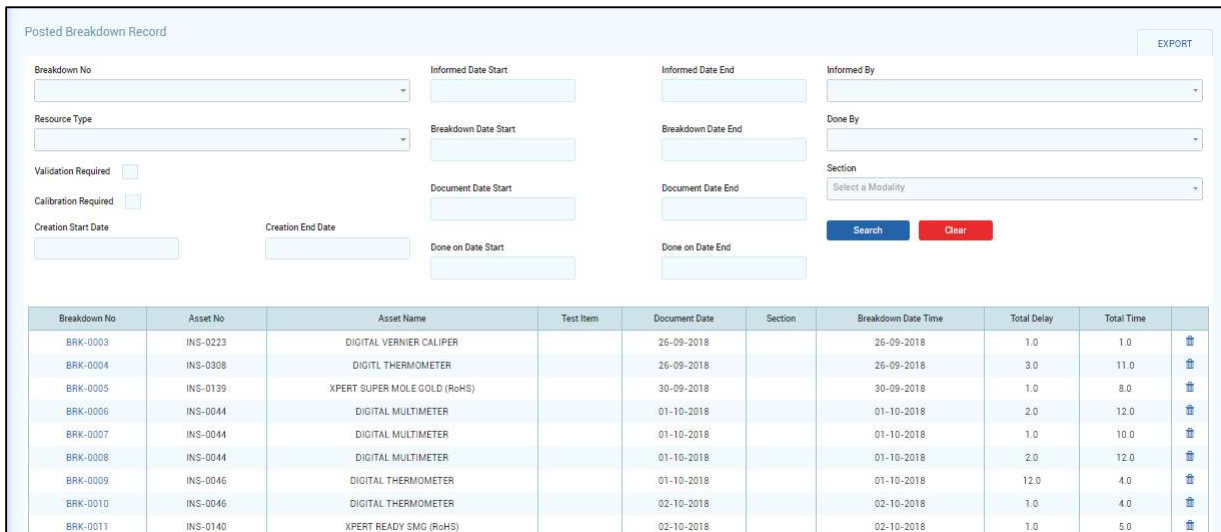
User comments related to Breakdown Record.



Figure: Breakdown Record (Comments)

3.10.4. Posted Breakdown List

This will have all the list of posted breakdown records. When the user clicks on the Breakdown number this will redirect to the posted breakdown record.



Breakdown No	Asset No	Asset Name	Test Item	Document Date	Section	Breakdown Date Time	Total Delay	Total Time	
BRK-0003	INS-0223	DIGITAL VERNIER CALIPER		26-09-2018		26-09-2018	1.0	1.0	🗑️
BRK-0004	INS-0308	DIGITL THERMOMETER		26-09-2018		26-09-2018	3.0	11.0	🗑️
BRK-0005	INS-0139	XPERT SUPER MOLE GOLD (RoHS)		30-09-2018		30-09-2018	1.0	8.0	🗑️
BRK-0006	INS-0044	DIGITAL MULTIMETER		01-10-2018		01-10-2018	2.0	12.0	🗑️
BRK-0007	INS-0044	DIGITAL MULTIMETER		01-10-2018		01-10-2018	1.0	10.0	🗑️
BRK-0008	INS-0044	DIGITAL MULTIMETER		01-10-2018		01-10-2018	2.0	12.0	🗑️
BRK-0009	INS-0046	DIGITAL THERMOMETER		01-10-2018		01-10-2018	12.0	4.0	🗑️
BRK-0010	INS-0046	DIGITAL THERMOMETER		02-10-2018		02-10-2018	1.0	4.0	🗑️
BRK-0011	INS-0140	XPERT READY SMG (RoHS)		02-10-2018		02-10-2018	1.0	5.0	🗑️

Figure: Posted Breakdown Record List

3.10.5. Posted Breakdown Record

This will contain all the details of the posted breakdown record. Towards the bottom right of the tab, there will be TWO buttons, namely PRINT REPORT and LIST. In the former button, user



can print the breakdown report and the latter will lead the user to list of posted breakdown records.

Breakdown Record

GENERAL COMMENTS

Breakdown No *
894-0232

Document Date
25-09-2018

Breakdown Date Time
25-09-2018 5:39 PM

Total Delay in Days
1.0

Total Time Used
1.0

Problem Description *
breakdown

Resource Type
Equipment

Asset No *
IN2-0223

Section
Select a Modality

Validation Required

Calibration Required

Informed By *
Elihu g

Informed Date Time
25-09-2018 5:39 PM

Done By
Elihu g

Done On Date Time
25-09-2018 5:40 PM

Engineer Feedback

Bl No	Root cause for failure	Parts Affected	Item Description	Corrective Action Taken	Preventive action	Starting date	Ending date	Starting time	Ending time	Sparks Used	Quantity used	Time utilized(h)	Delay in days	No of persons utilized
1000		Select an equipment								Select an item				

List Print Save

Figure: Posted Breakdown Record

3.11. Product Test Item

In Product Test Item, the user will be able to create and manage details of a complete product test system. Breakdown Records can be created for a Product Test Item. The user will be able to create the product test item details against an Item Part number (The Item part number and other related information like description, modality and manufacturing part number will be downloaded from Navision). The Item part number will be linked with HLA and sub assembly part numbers. If PCB Assembly Only HLA Need to be Filled / If HLA then Sub Assembly need to be filled.

There will be 12 sections (tabs) with below headings. The user will have option to select the section which is applicable for the part number and only the selected section's tab will be generated for the data entry.

1. Offline PROGRAMMING
2. Online PROGRAMMING
3. IN CIRCUIT TESTING
4. FLYING PROBE TESTING
5. Boundary Scan Test
6. FCT
7. Temp. Cycling (RELIABILITY TESTING)
8. Burn-in Test (RELIABILITY TESTING)
9. Thermal Shock (RELIABILITY TESTING)
10. Vibration Test(RELIABILITY TESTING)
11. Electrical Safety Tests
 - a. Hipot Test(Electrical Safety Tests)
 - b. Ground bond test(Electrical Safety Tests)

3.11.1. Create Product Test Item

The user will have option to create product test item. For that the user has to select the Item number and the description, modality and customer data will be loaded for that item from the item card. Click on create button, the product test item will be created. The user will be redirected to Product Test Item page.

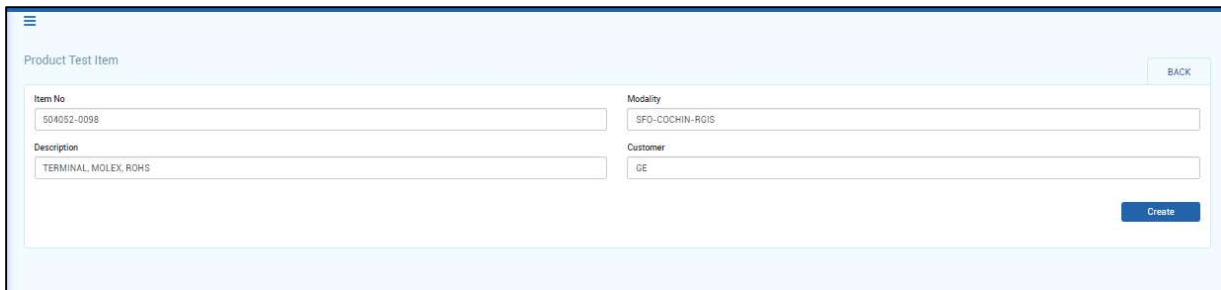
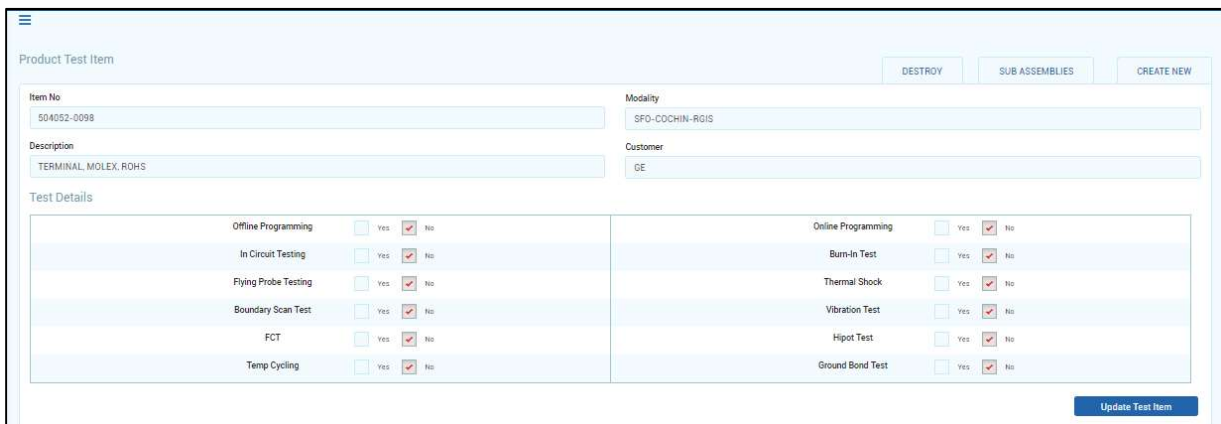


Figure: Create Product Test Item

The user will be able to create a Subassembly item by clicking on the ‘Sub-assemblies. Button. The user will be able to create a new product test item by clicking on “Create New”. Also, the user will be able to delete a product test item by clicking on “Destroy” button. By clicking on the test details link, the user will be able to select the test details associated with that product test item. By clicking on the Update Test Item button, the page will be populated with the relevant filed associated with the selected test items.



Test Details		
Offline Programming	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
In Circuit Testing	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Flying Probe Testing	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Boundary Scan Test	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
FCT	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Temp Cycling	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Online Programming	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Burn-In Test	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Thermal Shock	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Vibration Test	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Hipot Test	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Ground Bond Test	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Figure: Product Test Item Page.

The user will be able to search or select the existing product test item from the menu icon on top left of the screen.

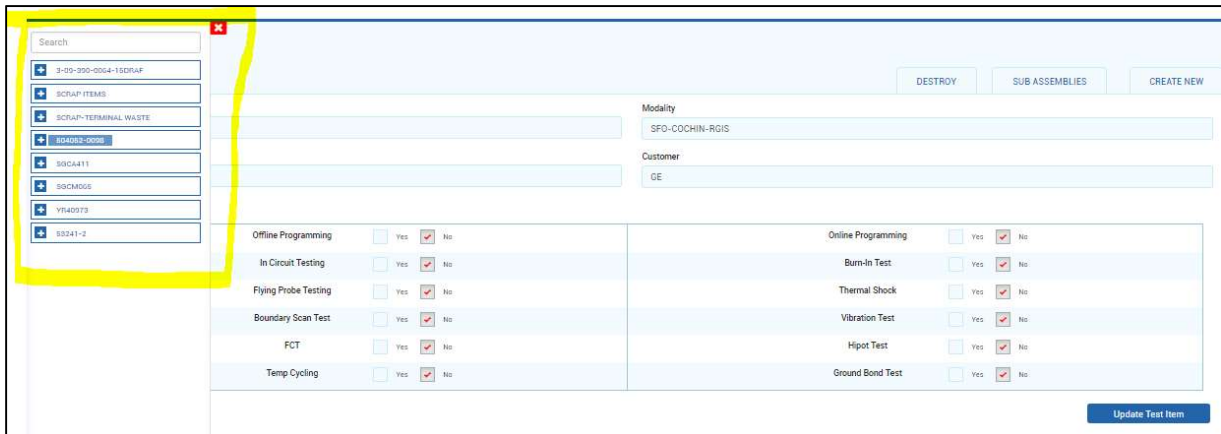
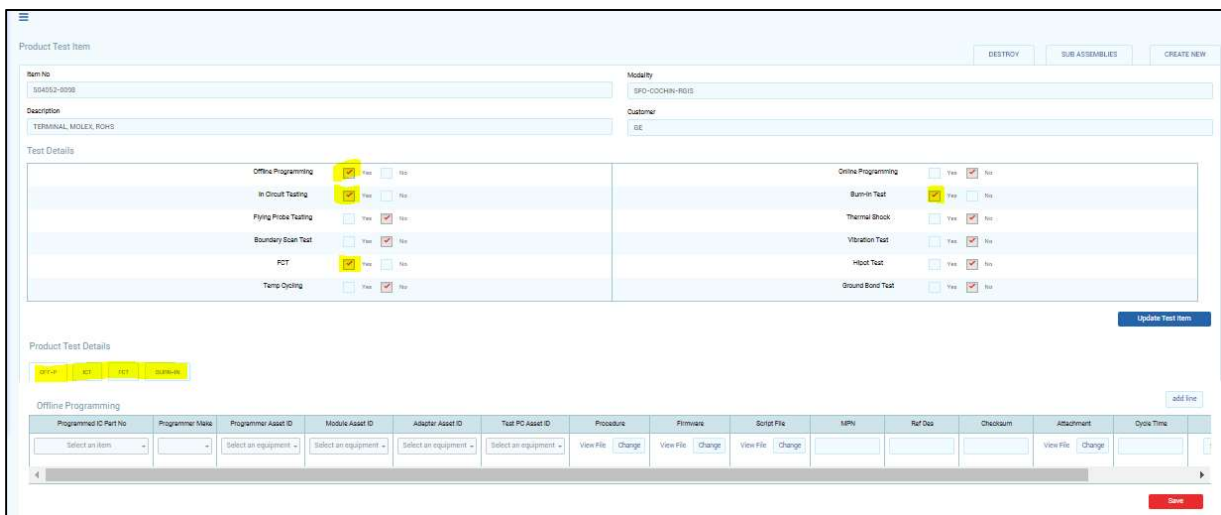


Figure: Product Test Item Search Page.



Programmed IC Part No	Programmer Make	Programmer Asset ID	Module Asset ID	Adapter Asset ID	Test PC Asset ID	Procedure	Firmware	Script File	ISPs	Ref Des	Checksum	Attachment	Cycle Time
Select an item		Select an equipment	Select an equipment	Select an equipment	Select an equipment	View File	Change	View File	Change	View File	Change	View File	Change

Figure: Product Test Item with test details.

The user will be able to Add sub-assemblies to existing product test item by clicking on the Add sub assembly button. To add a sub-assembly item, select the sub assembly item from the list, click on the “Plus” button and click on the “Update” button. This will add the sub assembly item.

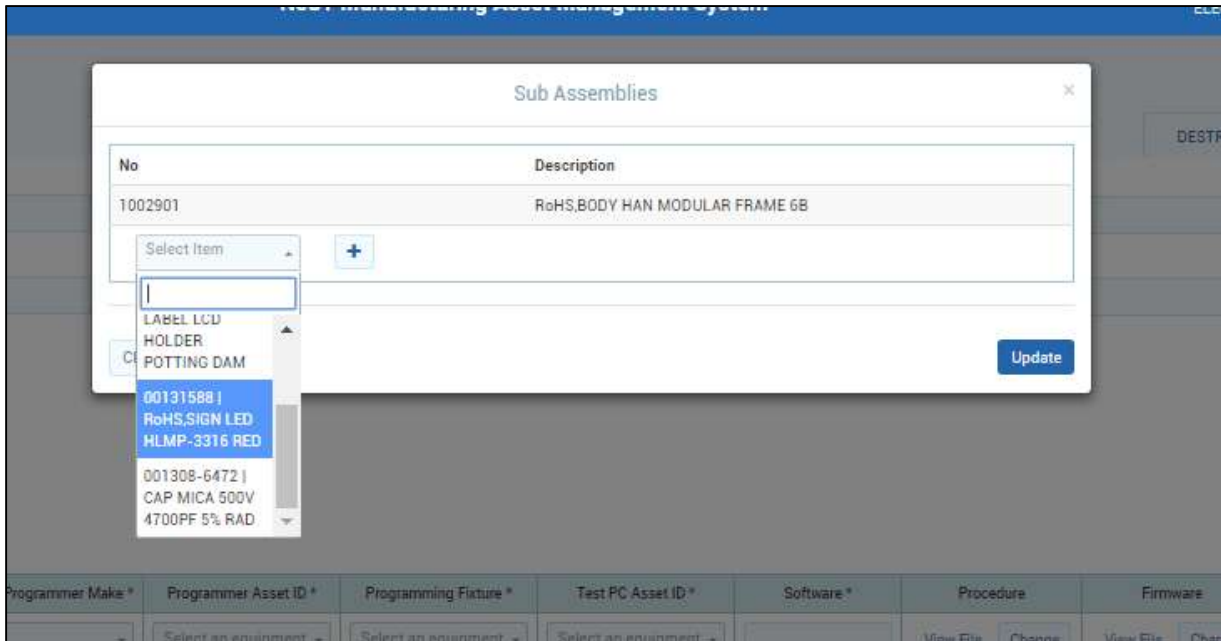


Figure: Add Sub assembly to Product Test Item.

3.11.2. Field Description – Product Test Item

Field	Location from where data to be fetched	Remarks	
General Information			
Item Number	Nav		
Description	Nav		
Modality	Nav		
Customer	Nav		
Type of assembly	HLA/PCBA	If PCB Assembly Only HLA Need to be Filled / If HLA then Sub Assembly need to be filled	
HLA Part NO	Nav		
Sub assy 1 part No	Nav	<i>link to Subassemblytest page</i>	
Sub assy 2 part No	Nav		
Sub assy 3 part No	Nav	Autopopulate	



Offline PROGRAMMING			
Offline Programming	Yes/ No		
Programmed IC part no	Nav	SFO programmed part number	
Programmer Make	BPM/ALL-100/ALL-11/XELTEK	select from Programmer make master	
Programmer Asset ID	<i>Equipment Master</i>		
Module Asset ID	<i>Equioment Master</i>		
Adapter Asset ID	<i>Equipment Master</i>		
Programming Procedure	<i>Share point Link</i>	<i>Document upload</i>	
Programming Firmware	<i>Share point Link</i>	<i>Document upload</i>	
Programming File	<i>Share point Link</i>	<i>Document upload</i>	
MPN		<i>From ItemCard</i>	
Ref Des	<i>Manual entry</i>		
Checksum	<i>Manual entry</i>		Optional Entry
Line In Charge	<i>Domain username pick</i>		

Online PROGRAMMING			
Online Programming	Yes/ No		
Programmed IC part#	Nav		
Programmer Make		select from Programmer make master	
Programmer Asset ID	<i>Equipment Master</i>		
Programming fixture	<i>Equipment Master</i>		
Programming software	<i>Equipment Master</i>		Mandatory
Programming Procedure	<i>Share point Link</i>	<i>Document upload</i>	
Programing firmware	<i>Share point Link</i>		
MPN			
Ref Des	<i>Manual entry</i>		
Checksum	<i>Manual entry</i>		
Line In Charge	<i>Domain username pick</i>		



IN CIRCUIT TESTING	Yes/ No		
ICT Machine	Agilent/Teradyne/ Aerorflex/ Jet	select from Master	
ICT Machine Asset ID	<i>Equipment Master</i>		
ICT Fixture Asset ID	<i>Equipment Master</i>		
ICT Software Validation Report	<i>Share point Link</i>		
ICT Fixture Validation Report	<i>Share point Link</i>	<i>Document upload</i>	
ICT Coverage Report	<i>Share point Link</i>		
ICT IQOQPQ	<i>Share point Link</i>	<i>Document upload</i>	
ICT Cycle Time	H:M: S (<i>Manual entry</i>)		
Fixture Spare list	<i>NAV part number Pick list</i>	<i>Refer list Details Page (autopopulate) Table: Spare List</i>	
Line In Charge	<i>Domain username pick</i>		

FLYING PROBE TESTING	Yes/ No		
FPT Stage	Top/Bottom/Top & Bottom	3 options to select from	
FPT Machine	Takaya	select from Master	
FPT Machine Asset ID	Equipment master		
FPT Fixture Asset ID	Equipment master	Optional	
FPT Procedure Documents	<i>Share point Link</i>	<i>Document upload</i>	
FPT Program .SWX Files	<i>Share point Link</i>	<i>Document upload</i>	
FPT Coverage report	<i>Share point Link</i>	<i>Document upload</i>	
FPT validation Report	<i>Share point Link</i>	<i>Document upload</i>	
FPT IQOQPQ	<i>Share point Link</i>	<i>Document upload</i>	
Spare list	<i>NAV part number Pick list</i>	<i>Refer Table: Spare List</i>	
FPT Validation Date			
FPT Cycle Time	Hour:Minute: Seconds		
Line In Charge	<i>Domain username pick</i>		

Boundary Scan Test	Yes/ No		
Boundary Scan Software Make	Corelis/JTAG/XJTAG	Select from Master	

Boundary Scan software Asset ID	Equipment Master		
Boundary Scan fixture Asset ID	Equipment Master	Multiple	
No of Hardware Tools Used	Manual entry	Autopopulate	
H/W Tool Description	Equipment Master	line	
H/w Tool Asset ID	Equipment Master	line	
Boundary Scan program	Sharepoint link	Document Upload	
Boundary Scan test cycle time	Manual entry(H:MM:SS)		
Line In Charge	<i>username pick</i>		

FCT	Yes/ No		
FCT procedure	Share point Link	Document upload	
FCT - IQOQPQ	<i>Share point Link</i>	<i>Document upload</i>	
Master card Available	Yes/No		
FCT Spare Details	<i>Yes/No</i>		
FCT Cycle Time	<i>Manual entry (H:MM:SS)</i>		
Spare list	<i>List Open (NAV part list)</i>	<i>Refer list Details Page (autopopulate) Table: Spare List</i>	
Line In Charge	<i>Domain username pick</i>		
Conformal Coating Applicable	<i>Yes/No</i>		
Number of FCT stages	<i>Manual entry (name as FCT, FCT-2 etc)</i>	Autopopulate	
FCT Stage Name	<i>Select from a List</i>	Select from Master	analog/RF/Source/FVT/post conformal, post burn in
FCT report format #	<i>Sharepoint Link</i>		
No of FCT	<i>Manual Entry</i>	Autopopulate	

Stations			
FCT Fixture Asset ID	<i>Equipment Master</i>	Need to add multiple Equipments	
FCT Fixture Asset ID	<i>Equipment Master</i>	Need to add multiple Equipments	Repeated for each item above.

RELIABILITY TESTING

Temp. Cycling	Yes/ No		
Third Party Lab	Yes/ No		
Lab Details	Select from List(NAV)	NAV Supplier list	Need to Show a Short description of Navision
Temperature Cycling Equipment Make		Select from Master	
Equipment Asset ID	Equipment Master		
Temp. Cycling fixture Asset ID	<i>Equipment Master</i>		
Temp. Cycling procedure	<i>Share point Link</i>	<i>Document upload</i>	
Temp Cycling Test time	<i>Manual entry</i>		
Batch Qty	<i>Manual entry</i>		
Temperature Max	<i>Manual entry</i>		
Temperature Min	<i>Manual entry</i>		
Chamber Program File	<i>Share point Link</i>	Document upload	
Spare List	<i>List Open (NAV part list)</i>	<i>Refer list Details Page. Table: Spare List</i>	
Cycle Time	<i>Manual entry (H:MM:SS)</i>		
Line in charge	<i>Domain username pick</i>		

Burn-in Test	Yes/ No		
Heat Room Required	Yes/ No		
Heat Room Asset ID	Equipment Master		
Burn-in procedure	<i>Share point Link</i>	<i>Document upload</i>	
Burn-in fixture Asset ID	<i>Equipment Master</i>		



Burn-in temp	<i>Manual entry</i>		
Burn-in Duration	<i>Manual entry</i>		
Batch Qty	<i>Manual entry</i>		
Temperature	<i>Manual entry</i>		
Spare List	<i>List Open (NAV part list)</i>	<i>Refer list Details Page. Table: Spare List</i>	
Cycle Time	<i>Manual entry (H:MM:SS)</i>		
Line in charge	<i>Domain username pick</i>		

Thermal Shock	Yes/ No		
Third Party Lab	Yes/ No		
Lab Details	Manual entry	NAV Supplier list	
Thermal Shock Equipment Make		Select from Master	
Equipment Asset ID	Equipment Master		
Thermal Shock fixture Asset ID	<i>Equipment Master</i>		
Thermal Shock procedure	<i>Share point Link</i>	<i>Document upload</i>	
Thermal Shock Test time	<i>Manual entry</i>		
Batch Qty	<i>Manual entry</i>		
Temperature Max	<i>Manual entry</i>		
Temperature Min	<i>Manual entry</i>		
Chamber Program File	<i>Share point Link</i>	Document upload	
Spare List	<i>List Open (NAV part list)</i>	<i>Refer list Details Page. Table: Spare List</i>	
Cycle Time	<i>Manual entry (H:MM:SS)</i>		
Line in charge	<i>Domain username pick</i>		

Vibration test	Yes/ No		
Third Party Lab	Yes/ No		
Lab Details	Manual entry	NAV Supplier list	
Vibration test procedure	Sharepoint Link		
Vibration test fixture	Equipment Master Card		
Test time			
Batch qty			

Vibration parameters	String		
Spare List	List Open (NAV part list)	Refer list Details Page. Table:	Spare List
Cycle Time	Manual entry (H:MM:SS)		
Line in charge	User		

Electrical Safety Tests

Hipot test	Yes/ No		
Hipot test procedure	Share point Link	Document upload	
Hipot test fixture	Equipment Master		
Validated Hipot Tester	Equipment Master		
Hipot test time	time		
Hipot test voltage	string		
Spare List	List Open (NAV part list)	Refer list Details Page. Table:	Spare List
Cycle Time	Manual entry (H:MM:SS)		
Line in charge	username pick		

Ground bond test	Yes/ No		
Ground bond test procedure	Share point Link	Document upload	
Ground bond fixture	Equipment Master		
Validated ground bond Tester	Equipment Master		
Ground bond test time	Manual entry		
Ground Bond test current	Manual entry		
Spare List	List Open (NAV part list)	Refer list Details Page. Table:	Spare List
Cycle Time	Manual entry (H:MM:SS)		
Line in charge	Domain username pick		

3.12. Safety Stock Report

This functionality allows the company to list all the items with inventory less than safety stock mentioned in Navision. This page will include fields like item, modality, item part number, Manufacturing part number, inventory, safety stock and inventory posting group. There will be

provision to search item based on Item number and Modality. When the inventory goes beyond the safety stock level, that row will be highlighted as RED.

Safety Stock Report BACK

Item Part No
 Search Clear

Modality

Item Part No	Description	Modality	Customer	Inventory	Safety Stock	Inventory Posting Group	Manufacture Part No
001152-077	CAP TANT SOL 20V 4.7UF 10% AXL	GE-TRANSPORT		0	RM	0	
00117914	RoHS.LBL.PCA.SERIAL NUMBER	BIOSCIENCE		0	CN	0	
001184-010	CAP TANT 10V 33UF 20% RAD	GE-TRANSPORT		2539	RM	0	
00120870	RoHS.ICA DRV NJM3517 STM 0A5	BIOSCIENCE		0	RM	0	
001223-2100	CAP CER 100V 10PF 10% 1RAD COG	GE-TRANSPORT		6	RM	0	
001224-6330	CAP CER 50V 33PF 10% 1RAD COG	GE-TRANSPORT		30	RM	0	
00123149	RoHS.CAP 27p X7R 100V 10% 1206	BIOSCIENCE		0	RM	0	

Figure: Safety Stock Report.

3.13. Admin Functionalities

3.13.1. User Creation

Admin will be authorized to handle the functions related to user creation and management. Admin shall be authorized to assign various roles to the user. The login will be based on Windows Authentication.

3.13.1.1. User list

There will be a user list where admin user will be able to view the list of users in the system. The Admin user will be able to create new users by clicking on the “New User” button. Also, the users can be searched using their user name, e-mail. There will be option to edit and delete an existing user.

Manage Users New User

Username
 Search Clear

Email

Creation Starting Date Creation Ending Date



















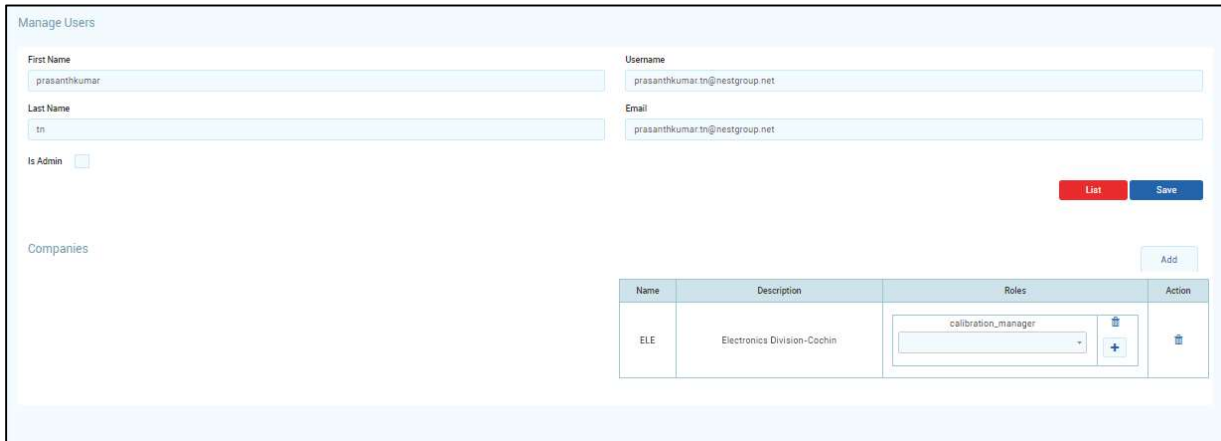
First Name	Last Name	Username	Email	Action
prasanthkumar	tn	prasanthkumar.tn@nestgroup.net	prasanthkumar.tn@nestgroup.net	 
thomas	denny	thomas.denny@nestgroup.net	thomas.denny@nestgroup.net	 
matthew	thomas	matthew.thomas@nestgroup.net	matthew.thomas@nestgroup.net	 
thomas	chacko	thomas.chacko@nestgroup.net	thomas.chacko@nestgroup.net	 
sreekumar	vm	sreekumar.vm@nestgroup.net	sreekumar.vm@nestgroup.net	 
reghuram	r	reghuram.r@nestgroup.net	reghuram.r@nestgroup.net	 
maneshmon	ts	maneshmon.ts@nestgroup.net	maneshmon.ts@nestgroup.net	 
neena	chinnan	neena.chinnan@nestgroup.net	neena.chinnan@nestgroup.net	 
jinuraj	kr	jinuraj.kr@nestgroup.net	jinuraj.kr@nestgroup.net	 

Figure: User List.

3.13.1.2. User Details / Assigning Roles to users

When the user clicks on edit button the user will be redirected to the user details page. He will be able to Add Roles for the selected companies. The user needs to be assigned to respective roles for performing activities in the system. Also the user will be able to set a user as admin by ticking on the “Is admin” check box.



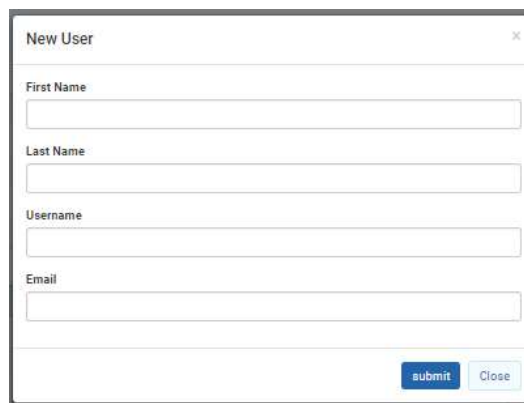
The screenshot shows the 'Manage Users' interface. It includes input fields for 'First Name' (prasanthkumar), 'Last Name' (tn), 'Username' (prasanthkumar.tn@nestgroup.net), and 'Email' (prasanthkumar.tn@nestgroup.net). There is an 'Is Admin' checkbox which is currently unchecked. Below these fields are 'List' and 'Save' buttons. A 'Companies' section contains an 'Add' button and a table with columns: Name, Description, Roles, and Action.

Name	Description	Roles	Action
ELE	Electronics Division-Cochin	calibration_manager	[trash icon]

Figure: User Details.

3.13.1.3. Add New User

The new user can be added by clicking on the “New User” button from the user list. Provide the User Full name, username (SFO windows login name) and SFO Email ID and click on submit. This will create the user.




The screenshot shows a 'New User' form with the following fields: First Name, Last Name, Username, and Email. At the bottom right, there are 'submit' and 'Close' buttons.

Figure: Create User.

3.13.1.4. Manage Roles

For restricting the access to data for the users, effective role management is important. So, we have introduced Role – Privilege mechanism in the system. The users will be assigned to roles inside companies and every role will have privileges. The data and the functionality will be controlled by privileges. Some of the roles are default role and that cannot be deleted.








Name	Action
Info breakdown	 
Calibration escalation manager	
Pm escalation manager	
Test role	 
Customer	
Breakdown manager	
Maintenance manager	
Product test item manager	
Calibration user	 
Breakdown user	 
Maintenance user	 
Equipments manager	
Calibration manager	

Figure: Role List.

For creating the new role, click on new role button from the list, the user will be redirected to the following page.



New Role

Name

submit Close

Figure: New Role.

Enter the name of the role and click on submit. The user will be redirected to the Role list and the new role will be listed there. Click on edit. The Following screen will come.

Edit Role

Name: maintenance_manager

Permissions

Name	Action
Manage-maintenance	<input type="checkbox"/>
Manage-maintenance-template	<input type="checkbox"/>
Approve-maintenance-template	<input type="checkbox"/>
View-maintenance	<input type="checkbox"/>
Manage-breakdown	<input type="checkbox"/>
Manage-equipment	<input type="checkbox"/>

Users

Name	company	username	email
Mohammad rafiek	ELE,CWD,OPD	rafiek	mohammad.rafiek@winfysoftware.com
Hobbs dawyne	CWD,OPD,RPT	hobbsdawyne@gmail.com	hobbsdawyne@gmail.com
Pm manager	CWD,ELE,OPD,RPT	pmmanager	raf.raf@winfysoftware.com
Brain cornet	CWD	brain	braincornet2@gmail.com

Figure: Role Details.

The user will be able to assign privileges to the role. Also, the users assigned to that role will be listed there.

3.13.2. Number Series (Prefix Definition for Record ID's) :

Admin shall be entitled to define the number series of all the records in the system.

Number Series

Code	Type	Default	Manual	Description	Starting NO	Ending NO	Starting Date	Ending Date	Status	Last Date Used	Last No Used	
INS	Equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Machine number	INS-000		16-11-2017	01-08-2018	Inactive	07-08-2018	INS-0096	
CWDD	Calibration record	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CWD num series	CWD-0000		24-05-2018		Active	07-09-2018	CWDD-0043	
NOD	Maintenance record	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NOD	NOD-0001		01-08-2018		Active	07-09-2018	NOD-0037	
NUM	Breakdown record	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NUM	NUM-0001		02-08-2018		Active	06-09-2018	NUM-0064	
RAF		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TEST Series2	RAF-0000	RAF-0002	02-08-2018		Active	02-08-2018	RAF-0009	
TST		<input checked="" type="checkbox"/>	<input type="checkbox"/>	TEST Series1	TST-000	TST-0006	03-08-2018		Active	07-08-2018	TST-0009	
AST	Equipment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Number Series for Asset	AST-001		07-08-2018		Active	01-10-2018	AST-0019	
Test		<input checked="" type="checkbox"/>	<input type="checkbox"/>	Test desc	Test-0000	Test-0002	07-08-2018		Active	07-08-2018	Test-0000	
TS	Equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	TEST Series	TS-0001		08-08-2018		Active	01-10-2018	TS-0013	
EOT	Equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EQT	EOT-0001	EOT-0002	15-08-2018	15-08-2018	Inactive	15-08-2018	EOT-0002	
EOPCWD	Equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EOPCWD	EOPCWD-0001	EOPCWD-0100	16-08-2018		Active	05-09-2018	EOPCWD-0010	
INS	Calibration record	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	INS	INS-0001		04-09-2018		Active	07-09-2018	INS-0010	
SFOIT	Equipment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SFOIT	SFOIT-0001		04-09-2018		Active	07-09-2018	SFOIT-0001	
EOPMNT	Equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	equipment	EOPMNT-0000	EOPMNT-1000	06-09-2018		Active	06-09-2018	EOPMNT-0000	

Figure: Number Series List

Admin will be able to create new number series for equipment/ Calibration / PM / Breakdown. Admin will be able to provide a Code, starting number, ending number, if any and can set a number series to its default. So, while creating a new record for asset the default asst code will be selected by default. Admin will be able to activate / deactivate a number series.

No Series BACK

Code: CWDD Description: CWD num series Type: Calibration Record

Starting NO: CWD-0000 Ending NO: CODE-XXXXX Default: Manual:

Last Used NO: CWDD-0043 Active:

save

Figure: Number Series Details

3.13.3. Master entries

There will be a single page for create and managing master values like Asset Category, Asset Class and Departmental Location etc. There will be single form for creating these records and there will be also a dropdown for specifying the type of these records. By changing the type, the corresponding master values will be loaded. There will be option to delete the mater values.

Master Records CREATE NEW

Type: category

Category

Code	Description	Action
UPS	description of ups	
TOOL	description of tool	
SMT	description of smt	
NN	nn dist	
ASSEMBLY AID	ASSEMBLY AID	
HAND TOOL	HAND TOOL	
MACHINE	MCH	
MEASURING EOP	MEASURING EQUIPMENT	
TESTING EOP	TESTING EQUIPMENT	

Figure: Master Table List

For Create a new master record, click on the “Create New” button, Provide code and Description along with the Type. The new record will be created.

A screenshot of a web application form titled "Master Record". The form has a light blue header with the title and a "BACK" button. Below the header, there are three input fields: "Code" (a text box), "Description" (a text box), and "Type" (a dropdown menu with "category" selected). A red "save" button is located at the bottom right of the form.

Figure: Master Table Details

3.14. Navision Integration.

The system will be integrated with Navision for fetching data from Navision. The data from the following tables will be fetched on a daily basis.

1. Customer Table
2. Modality Table
3. Currency Table
4. Vendor Table
5. Item Table.