Chapter 9

Plant Maintenance Information System

The Plant Maintenance Information System (PMIS) is a flexible tool for collecting, reducing and analyzing data from maintenance processes.

The aim of the Plant Maintenance Information System is to provide the user with all relevant views of all the information contained in the operative applications. The level and depth of information can be specified by the user.

Data analysis can be performed in the following two ways:

- **Standard analysis**
  This analysis is based on the statistical data of PMIS (called information structures). This means that important performance measures are updated directly from the operative application.

- **Flexible analysis**
  This analysis enables you to analyse any SAP data structures. It can be used for ad hoc analyses.

The comparison between **planning** and **actual** data is important for decision-making in maintenance. This is why PMIS enables you to not only collect and consolidate actual data, but also to enter planning data.

A further important component of the information system is the special statistical files, which are called **information structures**. They form the data basis for standard analyses. Planning is also based on these information structures.

Information Structures

An information structure defines a collection of data that is used for the reduction and subsequent analysis of data from maintenance processing activities.

Information Structure Contents

An information structure contains the following three types of information:

- **Objects -** Information, required for consolidation
  for example, functional location, piece of equipment, manufacturer, location, maintenance plant.

- **Performance measures -** Values that are of particular relevance for plant maintenance, for example, the number of notifications created, number of damages, length of downtime entered.

- **Time units**
  for example, day, week, month, posting period.

The values of the performance measures in an information structure are cumulated for each object in the information structure.

Example

A downtime of 75 hours (value) is recorded for the piece of equipment X15-123 in the month of March.

Standard Information Structures

The five information structures that are provided with the standard R/3 System contain thematically grouped performance measures that are suitable for all relevant analyses in the area of maintenance processing.

- "Location and Planning"
- "Object Class and Manufacturer"
- "Damage Analysis"
- "Object Statistics"
- "Breakdown Statistics"

You can access performance measures that are calculated using formulas at the time of analysis (for example Mean Time to Repair, Mean Time between Repair). You can access over 20 different performance measures.

Using the customizing function, you can also create individual information structures. In other words, you can expand the PMIS to suit your requirements.

Updating Statistical Data

The statistical data is updated automatically when processing functional locations, pieces of equipment and notifications.

Standard Analyses

Standard analyses offer extensive possibilities for analyzing data. Within the standard analyses, numerous functions enable you to target specific data.

The information structures form the data basis for the standard analyses. In the standard R/3 System, you can perform standard analyses for:

- object class
- manufacturer
- location
- planner group
- damage
- object statistics
- breakdown

For each standard analysis, you can specify the volume of data to be analyzed using various selection options.

Functions for the Analysis

A **drill-down function** enables you to vary the detail level of the information. You can specify the sequence in which the levels of information are displayed or use the predefined analysis path, known as the standard drill-down sequence.

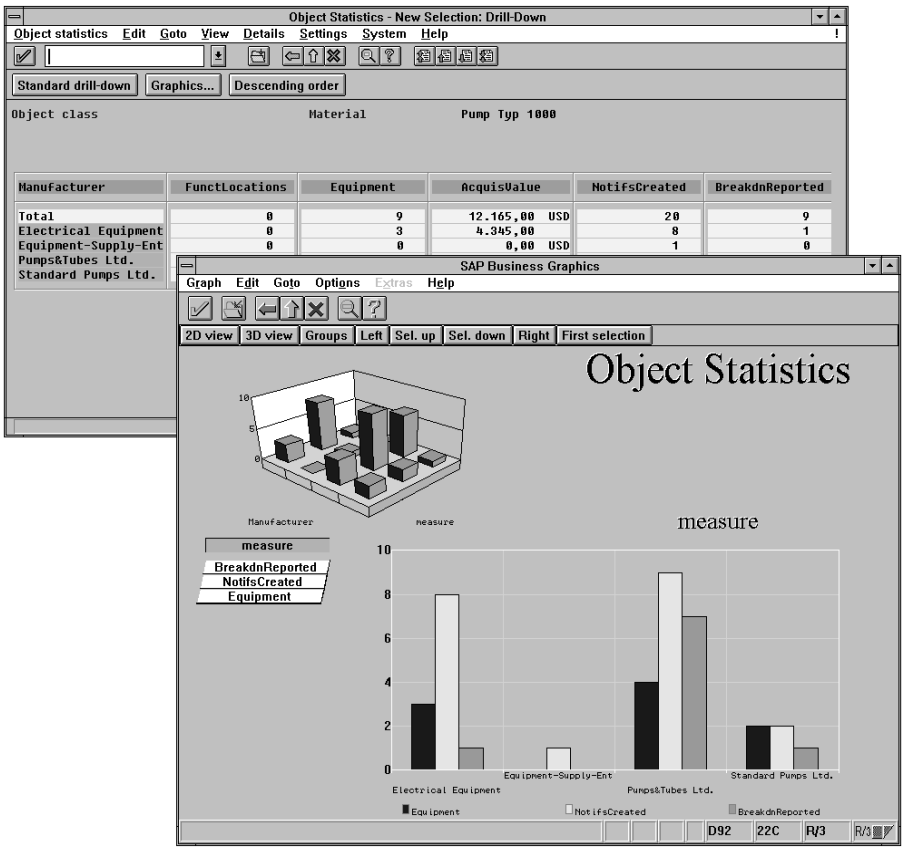

Figure 9-1: Object Statistics by Manufacturer

For each level of the analysis you can use a wide range of functions to perform different types of analyses, including **cumulative curve**, **correlation**, **ABC analysis**, **classification**, **dual classification** and **rankings**. All results can be displayed in graphic form.

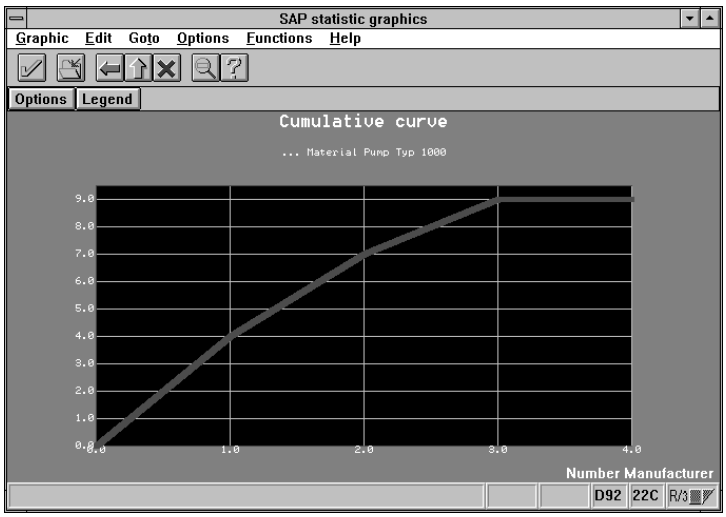

Figure 9-2: Cumulative Curve of Breakdowns Entered by Manufacturer

Flexible Analyses

With flexible analyses, you can tailor the way performance measures are combined and reduced. In this way, you can provide both detailed information for employees in the maintenance department and summarized information for employees at management level.

Evaluations

Using the evaluation structures you can individually create an evaluation. You can simply define an evaluation by selecting the objects and performance measures required.

This functionality also enables you to define the layout of your evaluation to suit your individual needs. For a report, you can define individual performance measures, the contents of which can be produced by applying arithmetic formulas to existing performance measures.

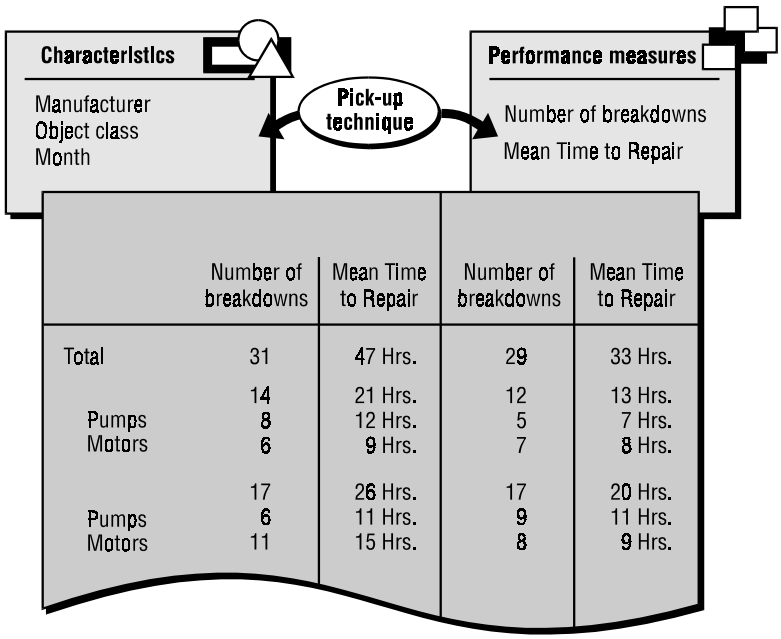

Figure 9-3: Defining a Report

Planning

Using the Plant Maintenance Information System, you can not only evaluate actual data, but also create planning data. Planning data is then used for the "planned vs. actual comparison" which is an additional step within the framework of the standard analyses.

The information structures form the basis of the planning. When entering planning data, you can either enter the data manually based on your own estimations and experience, or you can use the forecast models (for example, trend models, constant models), which calculate the planning data based on the already collected actual data.

Planning Views and Planning Versions

Within planning, you can change the view of the objects being planned. You can enter the planning data over several periods for several performance measures related to a single material. Alternatively, you can enter the planning data over several periods for only one performance measure but for several materials.

To take into account the various planning approaches, you can create several different versions of the planning data.

The PMIS as a Component of the LIS

The Plant Maintenance Information System is a component of the Logistics Information System (LIS), as are other information systems such as the Sales / Distribution Information System, the Production Information System and the Inventory Management Information System. In addition to these information systems, the LIS contains the Logistics Information Library (LIB) and a statistical data base.

Logistics Information Library

The Logistics Information Library (LIB) uses a simple search strategy to provide access to the performance measures in the LIS and across the entire Logistics area. The LIB enables you to enter and catalog performance measures.

What are the uses of the integrated Plant Maintenance Information System PM-IS?

- ❑ Current information on reduced levels at any time
- ❑ Drill-down to detailed information
- ❑ Improvement of maintenance strategies by proven performance measures
- ❑ Flexible modification possibilities to suit individual requirements