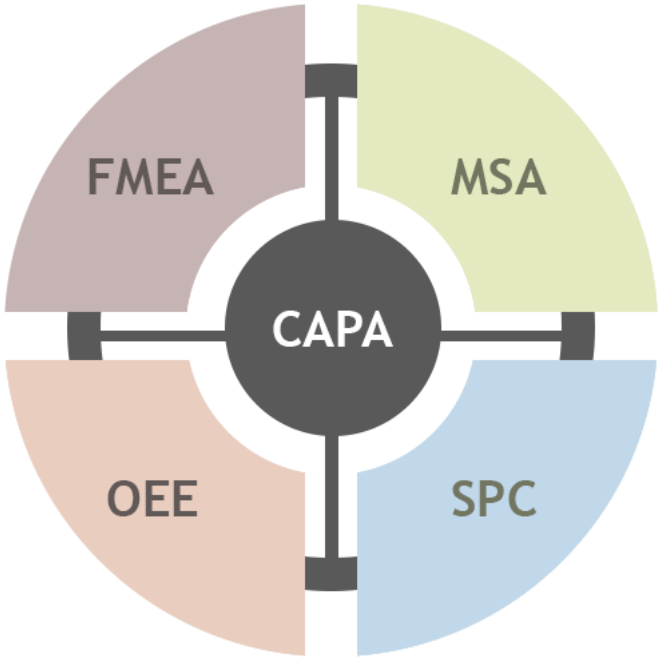
DATALYZER International
Partners in Continuous Improvement

DataLyzer software suite

Integrated solution for quality and productivity improvement



DataLyzer software suite

Introduction

DataLyzer was the first company ever to market a commercial SPC solution back in 1979. It was also the first company to market a commercial gage R%R module.
In recent years more and more companies are using FMEA and Control Planning techniques. FMEA and control planning are closely linked to SPC so we develop a FMEA module which is integrated with the SPC module.
In manufacturing environments we see that the people working on statistical process control are also often working on downtime reduction. It makes a lot of sense to integrate OEE solutions with SPC solutions so therefore we have developed a real time OEE module.
To complete the continuous improvement process a system is required to follow up on corrective and preventive actions. This CAPA module is the most recent module to complete the suite.
In this document we will briefly describe the different modules and explain how interfaces between the different modules assist the users to perform tasks quicker and more effective.

DataLyzer modules

SPC

The DataLyzer SPC module is an extensive SPC solution. It supports solutions from a few processes to worldwide implementations across multiple plants where each second measurements are stored in the system.

The operator is supported with real time data entry and analysis of variable and attribute control charts.

The engineer is supported with mails and analysis of data. Management is supported using KPI reporting.

FMEA

The FMEA module has the process flow, FMEA and Control plan integrated. The system helps users to manage the FMEA documentation and supports creation of documents.

Gage management

The Gage management module supports management of gages, internal and external calibration and measurement system analysis.

OEE

The OEE module supports real time registration of downtimes and short stoppages. Data can be entered manually or taken automatically from machines or sensors.
Registration of runs and shifts and all calculations are done automatically.

CAPA

The CAPA module supports a flexible creation of a workflow and supports the full registration and follow up of actions.

Interfaces

FMEA – SPC

During the FMEA process a control plan is established. The control plan describes:

- The characteristics and specifications
- The subgroupsize
- The frequency
- The out of control action plan

This information needs to be stored in the SPC system. In DataLyzer the setup in SPC can be automatically generated from the control plan. The causes and actions during the process are stored in the SPC system so in the control plan you normally refer to the practical implementation in SPC, because the amount of information in an OCAP is too much to fit in a control plan.

Operators on the shop floor might require the option to view the control plan.

Based on what is found during production information it is possible the FMEA and Control plan need to be reviewed. SO it must be possible during the SPC process to provide feedback to the owner of the FMEA and Control plan document.
So the reference to the control plan can be stored in the SPC system and feedback can be provided. The best way to do that is using the CAPA system (see further).

SPC – Gage Management

When a gage calibration failed the gage should normally not be used. In SPC it must be possible to enter the gage number and the system automatically checks if the gage is properly calibrated and can be used.

The same is in principle possible when the GR&R is not acceptable.

When performing a MSA study you can use the tolerance or the variation in the samples used in the study. The samples must be representative so in some cases it might be easier to use real variation in the process, so in DataLyzer it is possible to use the real variation from the SPC system.

The system supports groups of gages and groups of characteristics to link gages to the SPC setup.

SPC – OEE

In OEE downtimes are recorded and quality rejects. To analyze the reject data properly you need to use control charts so the quality reject data in the OEE system are stored in SPC charts to avoid double registration.
The OEE results per run or shift are also stored in SPC charts to make statistical analysis possible and to show the downtime data on the company dashboard.
Applying SPC requires a specific frequency of measurements. But if the machine is down this required frequency might change so the downtime registration in OEE can be used to report properly about required frequency.

CAPA – SPC – OEE – Gage Management – FMEA

The CAPA is maybe the most important tool in the integration of the different modules.
In all modules actions are performed which may lead to more corrective and preventive actions with multiple steps:

- In SPC operators perform actions in case of out of control or out of specs. In some cases it might be required to take follow up actions to prevent the same problem from happening again. Such a CAPA can consist of different steps and requires follow up.
- In OEE a downtime might be ended because the machine is restarted but it does not mean all problems are solved. For example a problem might be temporarily solved but preventive maintenance might be required to solve the problem. These actions might have different steps again and requires follow up.
- In Gage management a gage might have failed a calibration and then follow up actions are required to fix the issue.

- In FMEA actions are described to improve a process but this might consist of a large number follow up and approval steps.
- Some CAPAs require feedback for example if a problem is found during SPC one of the steps in the process is to review the FMEA and Control Plan

This whitepaper is part of a series of whitepapers. The whitepapers can be found on: http://www.datalyzer.com