

# **DataLyzer E-Learnings**

## **Gage Training and MSA**



## DataLyzer® International

DataLyzer® International provides its customers with advice, tools training and support to promote manufacturing excellence through continuous improvement. DataLyzer® is the only supplier globally offering an integrated FMEA, MSA, SPC, OEE and CAPA solution.

DataLyzer® was the first company ever to sell a commercial SPC and Gage R&R software dating back to 1979. Our 40+ years of unsurpassed support for Quality tools implementation across six continents has resulted in our invaluable experience in training, consultancy, and implementation.

We have more than 25 years of experience in providing on-site and online FMEA, MSA and SPC training courses.

Since 2019, DataLyzer additionally offers its customers with a unique E-learning course portfolio focusing on the underlying concepts of FMEA, MSA and SPC.

## Introduction E-learnings

We offer online training courses that can be followed using purchased credits. The credit system gives you complete control over how you implement the training program. You purchase training credits that can be used to assign any of the courses to your learners.

In the online training portal, we differentiate Master Courses, Overview Courses and Targeted Courses. Master Courses provide in-depth training on a topic and cost 1 credit per learner per course. The Overview Courses provide high-level introduction to the topic/terminology and the Targeted Courses have a practical approach on a narrow topic (both 0.5 credit each).

Measurement System Analysis is an essential part of every continuous improvement program. We offer two online E-learning courses: Gage Training and MSA.

## Gage Training

This **Master Course** provides metrology, gage, and GD&T training designed for operators and technicians who use dimensional gages in their jobs to make measurements.

Gage Training starts with basic dimensional metrology terminology, covers the importance of measurement standards and the difference between precision and accuracy. Next, the learner is introduced to geometric dimensioning and tolerancing (GD&T) and the fundamentals of surface finishes. Gage Training also covers how to take measurements with the most frequently used instruments including calipers, micrometers, height and depth gages, fixed gages, and gage blocks and surface plates and helps the learner understand the best way to measure various types of dimensions such as roundness and hole position.

The **Course Objectives** are presented below;

### Unit 1: Gage Primer

The purpose of this unit is to develop a fundamental understanding of basic gaging concepts. Upon completion of this unit you will be able to:

- Describe the purpose of measuring and the importance of precise and accurate measurements.
- Define key metrology terms and understand GD&T terminology and symbols.
- Explain the source of measurement standards and why they are so important.
- Identify and classify flaws in the finish of a surface.
- Use basic geometry to describe part dimensions.

### Unit 2: Using Gages

In this unit you will learn the proper way to use a variety of dimensional measurement instruments. Upon completion of this unit you will be able to:

- Use calipers, vernier calipers, micrometers, and vernier micrometers and interpret readings taken with those instruments.
- Measure parts with both height and depth gages.
- Use fixed limit gages and describe the advantages and disadvantages of them.
- Perform measurements with comparative length devices such as test indicators and dial indicators.
- Use gage blocks for establishing dimensional standards as well as describe their qualities and grades.
- Explain the purpose and qualities of surface plates.



### Unit 3: Gaging Applications

In this unit you will learn how to select the best gage to use for particular measuring situations. Upon completion of this unit you will be able to:

- Specify the best gage to use for a variety of different measuring applications.
- Identify the best way to measure linearity, roundness, and circularity.
- Make sure you don't make any of the most common measuring mistakes.
- Design a measurement process that eliminates or reduces potential measuring complications.
- Properly care for and maintain gages and measuring instruments.

This Gage training is developed for **front-line operators and quality professionals** who use dimensional gages in their jobs.

This course will cost **1 credit** and will take approximately **9 hours** to complete (0.9 CEUs).

### Measurement System Analysis

The MSA (Measurement Systems Analysis) **Master Course** includes detailed tutorials on many measurement system analysis techniques including how to conduct and analyze GR&R (Gage Repeatability and Reproducibility).

A GR&R is the accepted technique for evaluating the level of variation in a measurement system and determining if the measurement system is acceptable for use.

Measurement System Analysis covers techniques for analyzing the variation within a measurement system, determining its suitability for use, and ways to improve measurement systems. The GR&R analysis techniques used in the MSA online training program are in compliance with IATF 16949/AIAG methods.

The **Course Objectives** are presented below;

#### Unit 1: Analyzing Measurement System Variation

You will cover the techniques for analyzing the variation contained within a measurement system itself. After completing this Unit, you should be able to:

- Know the common sources of measurement system variation.
- Understand both Type A and Type B evaluations of measurement uncertainty.
- Use both graphical and mathematical techniques to evaluate gage or instrument linearity and stability, and initiate action to address linearity or stability issues.
- Know how to plan and conduct a GR&R study.
- Perform R&R analysis for non-destructive measurements, for destructive measurements, and for attribute measurements.
- Use ANOVA and graphical techniques for the R&R analysis.

#### Unit 2: Managing Measurement Systems

In this unit you will learn about the importance of measurement device calibration management. Upon completion of this unit you will be able to:

- Describe the primary sources of measurement error.
- Show how the calibration of a measurement device is tied to ISO standards.

This Measurement System Analysis training is developed for **engineers, quality professionals, supervisors and metrology technicians**.

This course will cost **1 credit** and will take approximately **7 hours** to complete (0.7 CEUs).

### More information?

As described, the online courses can be followed by using purchased credits. The pricing is 69 US\$ per credit for individuals and this price might be lesser when purchased as a subscription package.

For more information and/or in order to receive a quote, reach out to your accountmanager or [sales@datalyzer.com](mailto:sales@datalyzer.com).



## Other E-learnings (FMEA/SPC)

The E-learning **FMEA** course portfolio exists of both Design- and Process FMEA courses including the new AIAG-VDA method. We also provide a training course on AIAG-VDA FMEA-MSR's.

For **SPC** we offer Basic and Advanced SPC courses, an SPC for Business Processes course, and targeted training for Understanding Variation, Control Charts and Process Capability.

In addition, we offer **APQP**, **Quality Improvement** and **Lean Six Sigma** E-learning courses.

## DataLyzer Gage Management Software

DataLyzer® Spectrum Gage Management software quantifies measurement system variation and provides the required information for reducing it. The DataLyzer® Spectrum Gage Management software works according to IATF 16949 requirements.

The system allows for individual and 'generalized' Gage R&R studies. 'Generalized' studies apply results from one gage's study to all gages of the same type according to certain constraints.

There are 3 components available in the Gage Management software:

- Gage Calibration and Bias Studies
- Gage Repeatability and Reproducibility Studies (GR&R)
- Supplier Records (sourcing for supplies, replacement and repair)

The theoretical concepts covered by the MSA and Gage Training Courses are aligned with the tools available in the DataLyzer Gage Management software.

For more information on our Gage Management software, please contact your accountmanager or [sales@datalyzer.com](mailto:sales@datalyzer.com).

DataLyzer is a registered trademark of DataLyzer International Inc.

### European office

DataLyzer® International bv  
Eindhoven  
The Netherlands  
T +31-40-2940980  
E [sales@datalyzer.com](mailto:sales@datalyzer.com)

### American office

DataLyzer® International, Inc.  
Wixom, MI 48393  
USA  
T +1-248-960-3535  
T 800-553-4SPC (4772) within the U.S.  
F +1-248-946-8490  
E [sales@datalyzer.com](mailto:sales@datalyzer.com)

### Asian office

DataLyzer® Technologies Pvt Ltd  
Bangalore  
India  
T +91-9740013624  
T +91-8026769337  
E [salesindia@datalyzer.com](mailto:salesindia@datalyzer.com)

[www.datalyzer.com](http://www.datalyzer.com)

### International Distributors

DataLyzer® International has a very capable international distributor network. Most distributors have a long term relationship with our company and years of experience with the implementation of SPC, OEE, FMEA and DataLyzer® software.

For your local distributor look at [www.datalyzer.com/company/reseller/](http://www.datalyzer.com/company/reseller/)