



Event Agenda

Fundamentals of Automated Visual Inspection (PDA 593)

DAY 1

8:30 Welcome and Introductions

9:00	Theory 1: Introduction to Visual Inspection and Regulatory Requirements
	<ul style="list-style-type: none">• Purpose of visual inspection• Regulations review: United States, Europe, Japan, China• Similarities and differences in compendial methods• 100% inspection and acceptance testing (AQL) incl. DIP• Definitions and practical examples of inherent, intrinsic, and extrinsic particles

10:00	Theory 2: Life Cycle Approach and Risk Evaluation Part I
	<ul style="list-style-type: none">• Contamination control strategy• Holistic particle life cycle management

10:30 Break

10:45	Theory 2: Life Cycle Approach and Risk Evaluation Part II
	<ul style="list-style-type: none">• Particle investigations• Risk evaluation of particulate matter• Monitoring and trending

11:15	Theory 3: Technical Principles of Automated Inspection Machines Part I
	<ul style="list-style-type: none">• Functionality of automated inspection machines• Camera systems/light/motion• Image processing and database system• Interlinkage of parameters: speed, rotation speed, inspection parameters, detection probability, false reject rate

12:00 Lunch

13:00	Theory 3: Technical Principles of Automated Inspection Machines Part II
	<ul style="list-style-type: none">• Properties, capabilities, and limitations of automated inspection systems• Scope of Automated Visual Inspection• Considerations on Primary Containers and Product Properties

13:45 Break

14:00	Exercise 1: Principle Basic Image Acquisition and Processing, Test Samples Parametrization
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14:45	Theory 3: Technical Principles of Automated Inspection Machines Part III
	<ul style="list-style-type: none">• Artificial Intelligence – how and when to apply it in AVI

15:45 Break

16:00	Exercise 2: Principle of AI Image Processing, Advantages for Detection and Utility for False Reject Rate Minimization
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17:00 End of Day 1



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DAY 2

Theory 4: Transition from Manual to Automated Inspection

- Manual inspection as a prerequisite for transition to automated inspection
- Manual inspection baseline assessment
- Interpretation of inspection results and validation of data
- Threshold studies and usage of Quality Factors
- AVI implementation journey - overview
- Types and functions of the different test sets

10:30

Break

Theory 5: VI Test Sets

- What to include in test sets for qualification
- Defect types and categorization, different product configurations (e.g. liquid and lyo products)
- How to ensure the test set is representative and challenging
- Defect ingress risk assessments and test set design
- Test set qualification and certificates
- Test set lifecycle management

12:00

Lunch

Theory 6: Validation of AVI processes

- Considerations on validation strategy for automated inspection
- AVI implementation journey in detail - from URS to qualification
- Performance measurement – comparing apples to apples
- 2-stage inspection process with MVI/SAVI
- AQL inspection
- Maintaining the inspection process - MVI and AVI

14:15

Break

Theory 7: Validation Maintenance

- Risk management
- Routine functional tests
- Monitoring of performance
- Change control
- Re-validation

15:30

End of Event