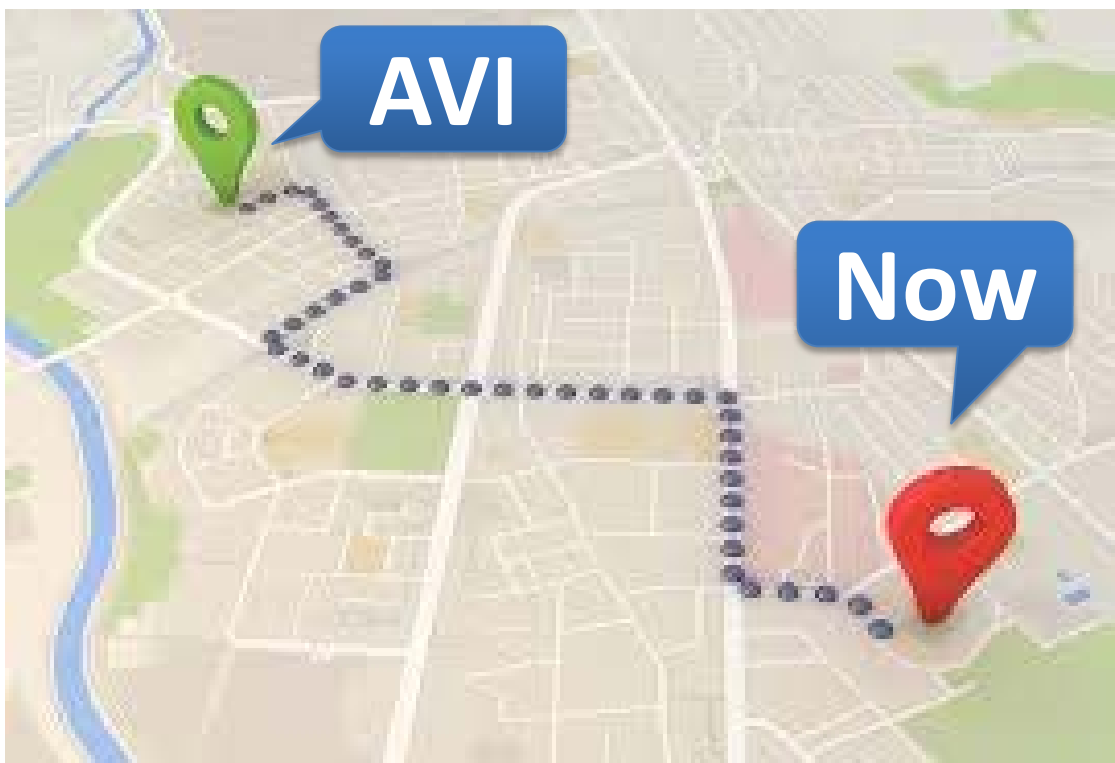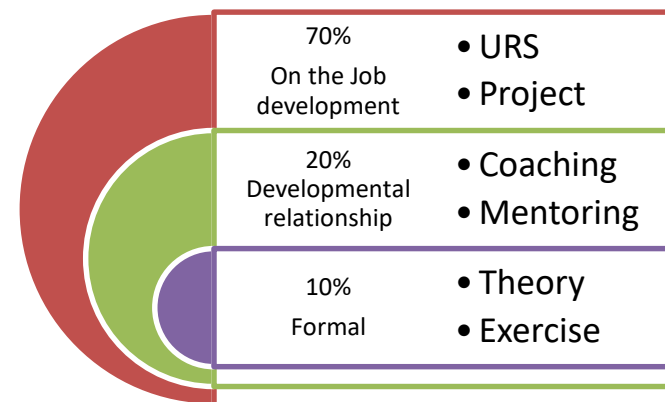- Mastering Automated Visual Inspection

- *Instructor Lead: Romain Veillon / Fernand Koert / Sébastien KOCH*

- « You will reach your destination in ... months »

- **Target audience**
- This course is designed specifically for those who are involved or interested in moving from manual to automated inspection like
- Managers, Supervisors and all Decision makers in the visual inspection area Quality personnel

- **Prerequisites:**
- Basic understanding and practical experience of manual inspection (as conveyed in the PDA course 'Introduction to Visual Inspection – A hands-on course')

- **Learning Objective:**
- Acquire basics about Regulatory landscape for AVI
- Be ready to design your URS
- Understand Key function of AVI equipment
- Define your defect kits and validation strategy
- Develop your own control strategy around AVI
- Have basic knowledge about computer vision

70% On the Job development	• URS • Project
20% Developmental relationship	• Coaching • Mentoring
10% Formal	• Theory • Exercise

- Visual Inspection mastery is fundamental in parenteral manufacturing in order to guarantee both patient safety and cost effective supply.
- The capability of Automated Visual Inspection (AVI) has progressed extensively over the years to the point where, when applied appropriately, it can offer significant advantages over manual and semi-automated inspection processes. This has been made possible thanks to major innovations and technology breakthroughs.
- In line with these technological advances, the regulatory requirements for this challenging process have been reinforced.
- As a consequence, AVI machines today are complex and require multidisciplinary project teams for successful implementation (vision engineers, automation, mechanical engineers, validation experts, quality and regulatory affairs).
- This course has been devised to support your AVI program development, by addressing critical parameters, key competencies and practical approaches to managing the inherent complexity of AVI.
- In day 1, after a review of regulatory landscape, key functions of AVI equipment and associated critical parameters will be covered. Then, the participants will look at the interaction between primary packaging component and AVI of the filled drug product. Successful URS development will be covered by a practical workshop in order to address not only user needs but also to produce a comprehensive process flow model.
- In Day 2, the need for an effective Manual Visual Inspection (MVI) baseline process will be overviewed as a prerequisite to AVI. Then, defect kits and validation strategies will be described. AVI has a scope broader than computer vision alone and the overall control strategy for the process will be covered.
- 'Vision Engineering for dummies' will be explained during a practical workshop using modern vision equipment and genuine examples of production defects.

- Instructor lead presentation
- Collection and clustering of expectations,
  - questions and professional
  - background of participants
- Agenda Reviewing

Share Your expectations

Mastering Automated Visual Inspection
Agenda Day1

Day 1:	Topic	Leading Trainer	Duration
09:00-09:30	**Welcome and Introduction** • Collection and clustering of expectations, questions and professional background of participants	All Trainers	30 min
09:30-10:45	**Theory 1:** • Introduction into regulatory requirements of visual inspection	Romain	45 min
10:45- 11:15	Coffee break		30 min
11:15-12:15	**Theory 2:** • Introduction into technical principles of automated inspection machines	Fernand	90 min try to increase to 120'
12:15- 13:15	Lunch break		60 min
13:15-14:15	**Theory 3:** • Considerations on primary containers and product properties	Sébastien	60 min
14:45-15:45	**Exercise 1:** Task: Developing an URS considering the triangle cost / quality / time	All Trainers	60 min
15:45-16:15	Coffee break		30 min
16:15-17:15	**Theory 4:** Selection and purchasing of an automated inspection system	Sébastien	90 min
17:15-17:45	**Exercise 1 (cont.):** Presentation of the results of the sub-groups and discussion of the results	All trainers	30 min
17:15-17:30	**Q & A**	All trainers	15 min
17:30	End of training course day 1		

Mastering Automated Visual Inspection
Agenda Day2

Day 2:	Topic	Trainer	Duration
09:00-09:15	Recap of most important training content of day 1	Romain	15 min
09:15-10:15	**Theory 5:** Transition from manual inspection to automated inspection	Sébastien	60 min
10:15-11:00	**Exercise 2:** Task: Principle basic image processing modern camera and vision processor and common defects	All	45 min
11:00-11:15	Coffee break		15 min
11:15-12:00	**Exercise 2 (cont.):** Presentation of the results of the sub-groups and discussion of the results	All	45 min
12:00-13:00	**Theory 6:** Qualification Test Set and Routine Test Set	Fernand	45 min
13:00-14:00	Lunch break		60 min
14:00-15:00	**Theory 7:** Visual inspection lifecycle and control strategy	Romain	60 min
15:00-15:30	**Theory 8:** Operation and maintenance of automated inspection systems	Fernand	15 min
15:30-16:00	Coffee break		30 min
16:15-16:30	Future Trend of Automated Visual Inspection	Romain	15 min
16:30	End of Training Course		

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