

# **Influences, Possibilities, Risks and Upcoming Standardization of UV LED Technology used for Fluorescent Magnetic Particle Inspection (MPI) and Penetrant Testing (FPI) in Aerospace**

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UV LED Technology is about to completely substitute discharge bulb-based UV-Sources like Mercury Vapour Lamps. The endless design possibilities of LED Technology are both a blessing and curse. A blessing because it allows to build UV Sources that can make the inspection easier, better and faster than ever before and a curse because the technology itself is not, as the bulb-based UV-A sources, secure by design and it needs high efforts to achieve at least similar process security and performance with UV LED Technology. This drastic change in technology impacts significantly the performance, costs and reliability of the two most used NDT methods. The wide range of very different lamps and the missed characterisation challenges responsible and users all over the world. All the possibilities and their influences to this security-critical process also challenge the standardization, which is actually below the technical requirements to ensure constant quality and security as when using conventional bulb-based UV Sources. The presentation will outline the process-relevant characteristics of UV sources, the possibilities the technology offers to Fluorescent Penetrant Inspection (FPI) Magnetic Particle Inspection (MPI) and how standardization is about to handle to describe the issues of LED based UV Sources that didn't exist in the previous used technology.