The Curriculum in NDT Training Have to Include Basics Information Technology to Accomplish Reliability of Automated NDT Result's

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Abstract Automation in Non-Destructive Testing (NDT) is a reality of modern manufacturing and quality assurance. Information technology applications are simultaneously developed and applied to different fields of NDT methods. The future of doing reliability checks using automated system is inevitable. The results are important to make a variety of decisions regarding the quality of a product and/or service, hence affecting safety and reliability. Depending on artificial intelligence and quantum device development, various NDT training schemes have to adopt a new curriculum to address the issue of the basic knowledge of information technology and automation in NDT. NDT operators are basically dependent on the end results of software, in which the software developer uses a set of algorithms. These are obtained in three categories; 1) Real time database; 2) Synthetic database and 3) Hybrid or combination of them. The developers should know how the NDT systems run and NDT operators in the other hand know the mechanism of the program, so that appropriate action can be taken, in case there is a missed detection, or a detected indication is not very much detrimental to the reliability of the part (Over sizing or wrongly evaluated). For example, a set of algorithms are used to create the focal laws in a phased array ultrasonic test software in space of 1˚ beam steering. Each has a limit of maximum up to 2nd Critical angle. Operators try to copy the same algorithm and set up to 89˚ refraction angle, which will just create creep wave with unreliable results to detect effective size the reflector. Programming knowledge of the operator can effectively eliminate this type of unreliability. In various Schemes of NDT Syllabus which are in common place to employ and train plus certify operators does not have it; actually, the operators do the scope of work which does includes application of Artificial Intelligence (AI) and Software. With the development of Q coupler (Quantum Computing) system, it is obvious to adopt the upcoming technology into the application of NDT industry. Training needs to update the curriculum accordingly. The current topic has intended to focus on the training gap and to address related kind of unreliability.