

BINDT Aerospace 2026

Online remote training – Procedures put in place following COVID-19



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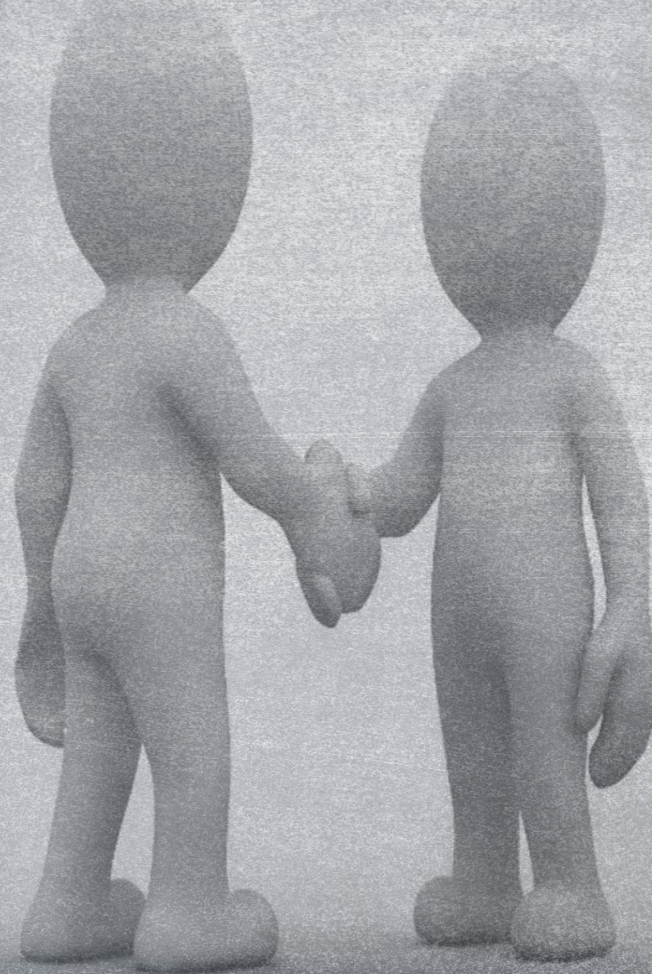
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Presentation aims and objectives



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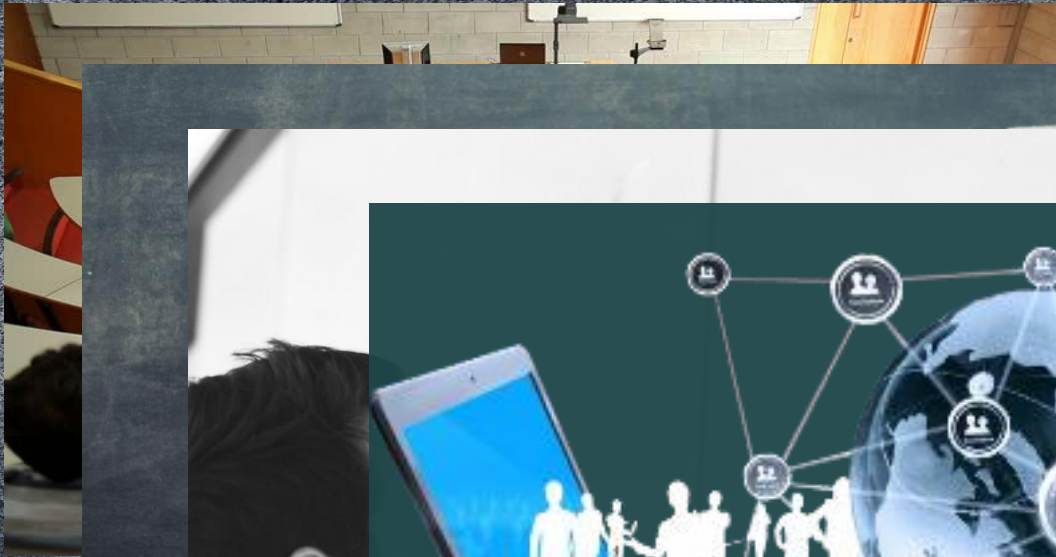


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Common factors



- Growing global demand for qualified NDT personnel
- Modernised training methods:
- Recognise: E-learning / blended learning / provide flexible, scalable delivery of NDT theory
- **Remain compliant with standards (ISO 9712 / TS25108)**



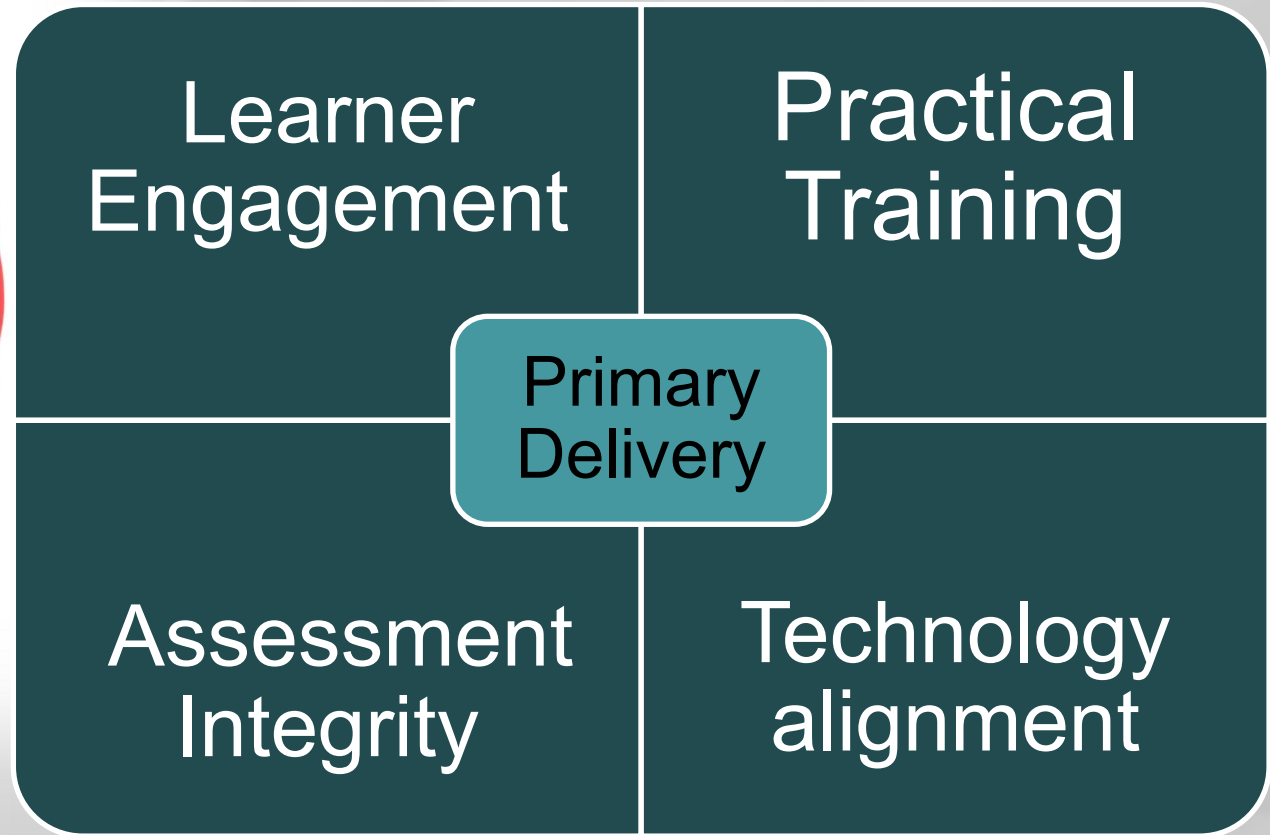
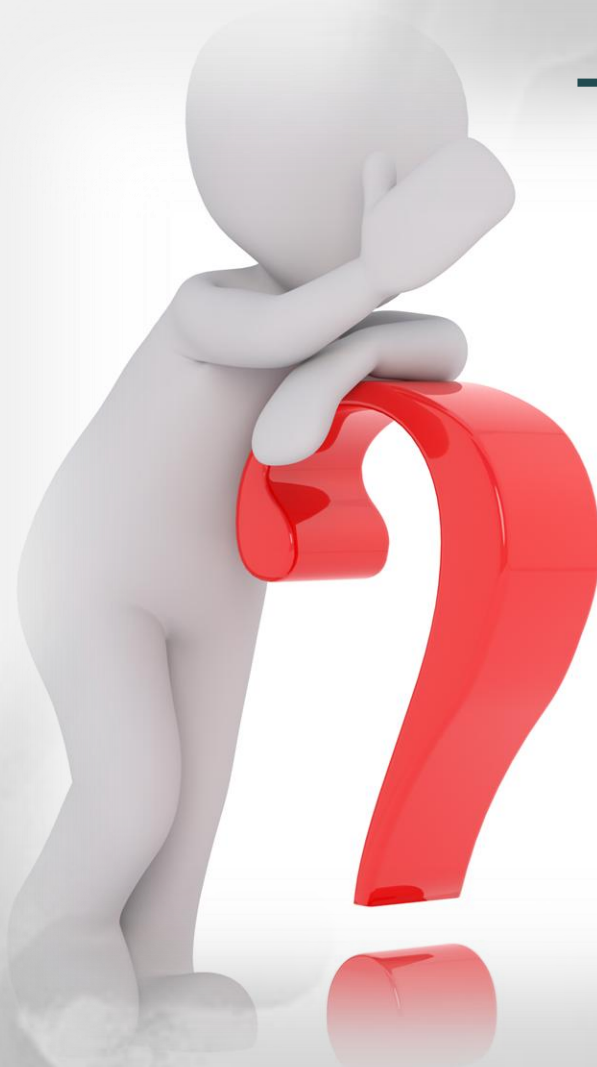
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TS 25108 CONSIDERATIONS



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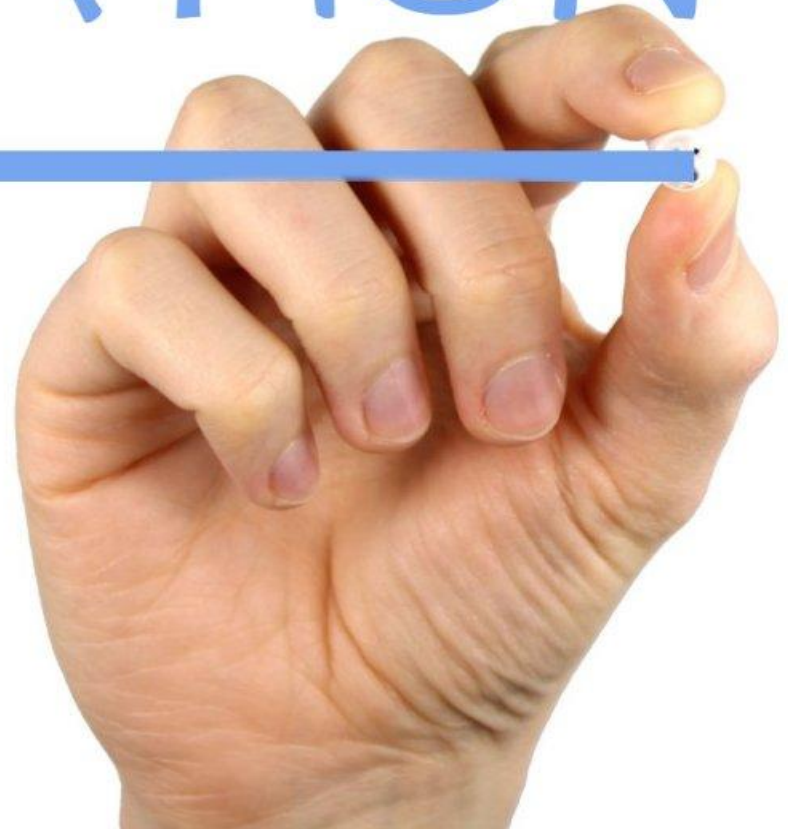
LEGISLATION

Requirements

Standards

Specifications

Codes



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Guidance for use of web-based training,
distance learning, simulation and virtual
reality

CAP 1933 First Published Oct 2020

Published by the Civil Aviation Authority

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CAP 1933

Provides guidance in line with UK Regulation to support the introduction of Training procedures and associated quality systems & provide agreed standards for:

- Web-based training (WBT)
- Distance learning
- Use of Simulators
- Synthetic training aids
- Virtual reality



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CAP 1933 consideration:

- **Max 20 students per session**, to maintain interaction.
- Strength of the **internet connection**.
- **Software** must support the class size, from both the ATO's and student's perspectives.
- **Monitoring engagement**.
 - Instructor supported by additional staff members ensuring students remain on camera and, engaged?



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web-based systems
should be:

Private and secure.

Participants should be able to fully
interact with their instructor

Support instant messaging (IMS)

Be in a location and time zone
that is conducive to learning.

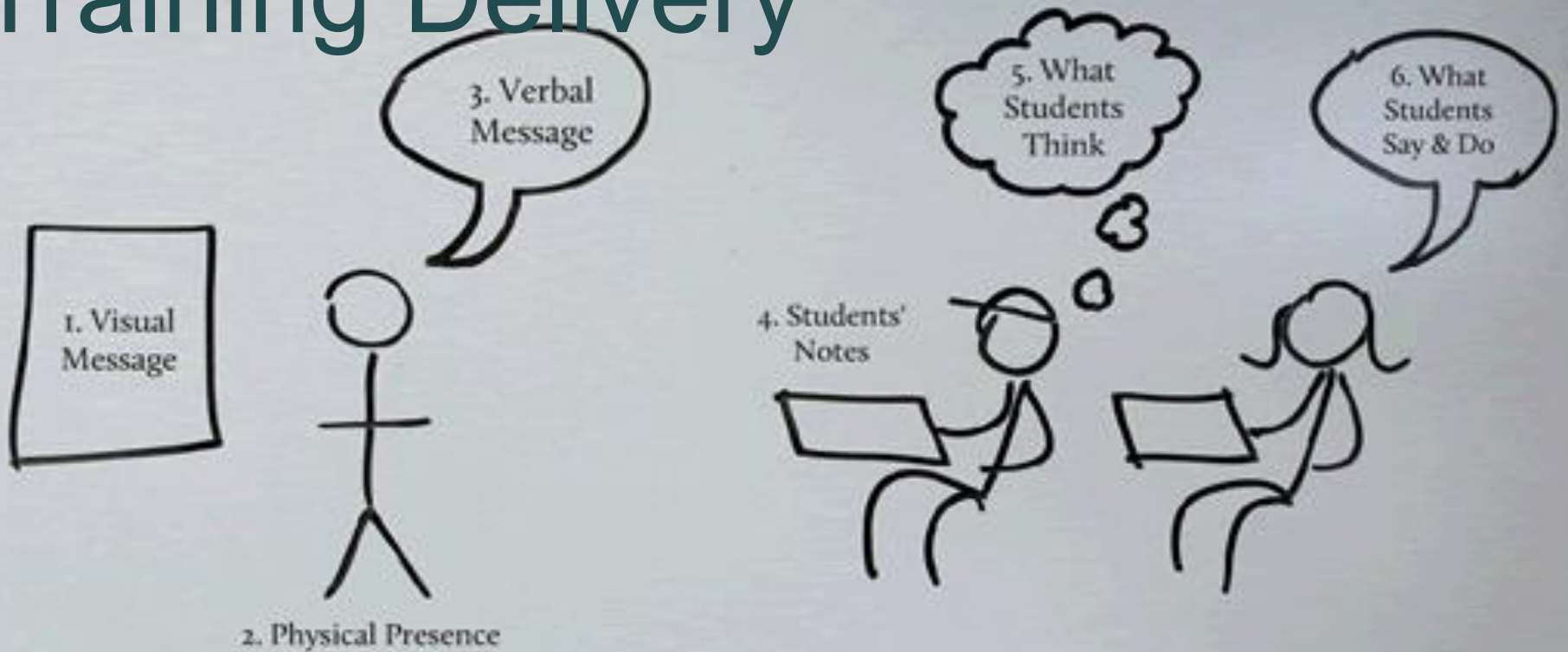
(IMS) Questions asked openly or privately, without interrupting the instructor



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Training Delivery



“Synchronous / Asynchronous”
Or both.



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Synchronous Learning

Instructor and students interact at the same time (real time). i.e.

- Traditionally classroom-based sessions, presentations, symposiums.
- Both classroom-based and distance learning training may be carried out using synchronous learning.



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Asynchronous Learning



Instructor and students **DO NOT** interact at the same time. i.e., Instructor assigns the student work which they complete at a later point in time.

Often seen as assignments / homework within course work.



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ISO 9712 knowledge requirement

Products and materials.

Fabrication process.

Defects:

- During manufacturing / in-service conditions.

Correct selection of NDT method & technique to reveal the required discontinuities.

Pre- and in-Service industry sector – which includes manufacturing.



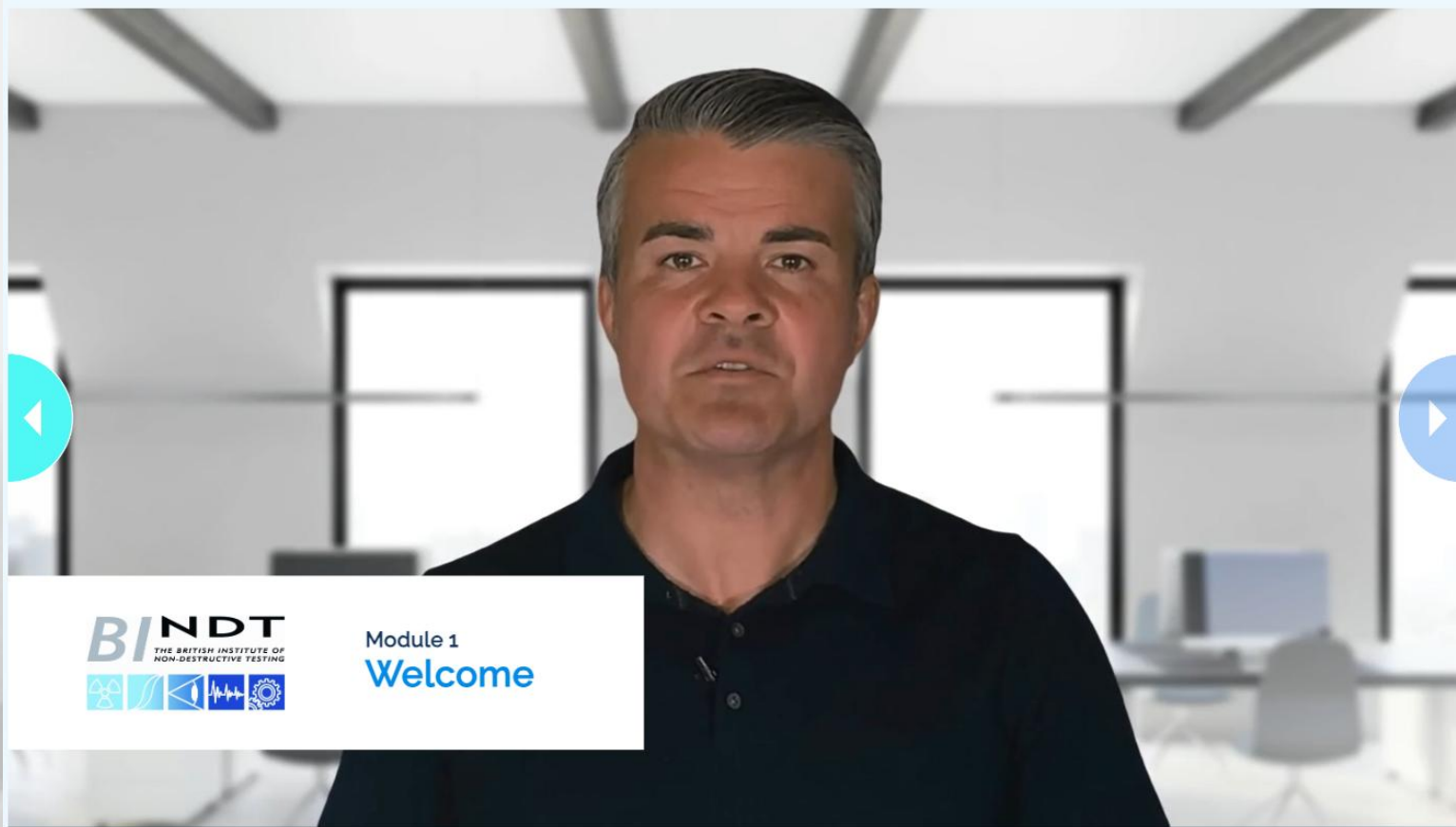
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Video presentations



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Image credit - <https://www.hrconnect.cl/desarrollo/software-aprendizaje-formacion-potencia-learning-management-system/>

LMS

Learning Management Systems



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Simulation:



Image credit <https://www.stengg.com/en/defence/training-and-simulation/>

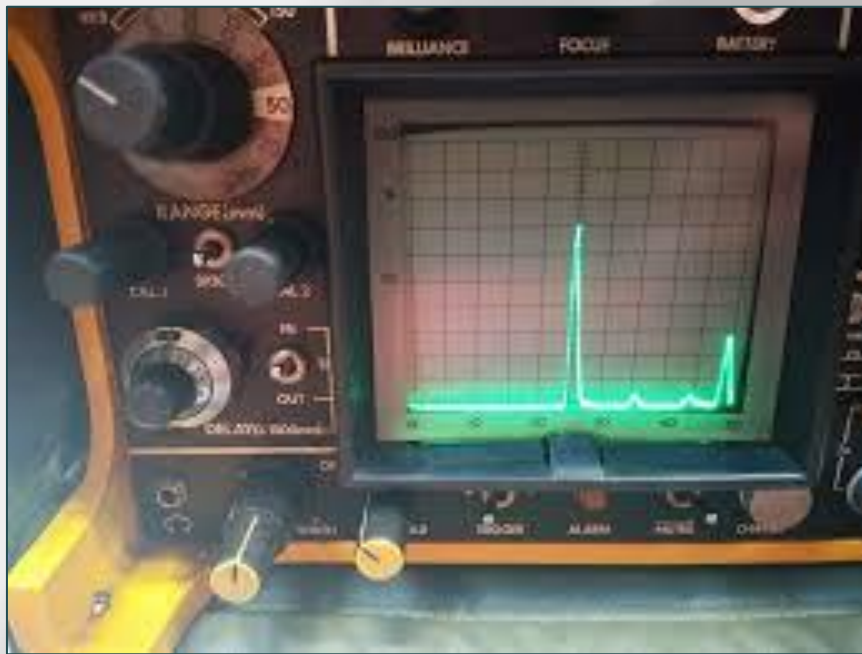


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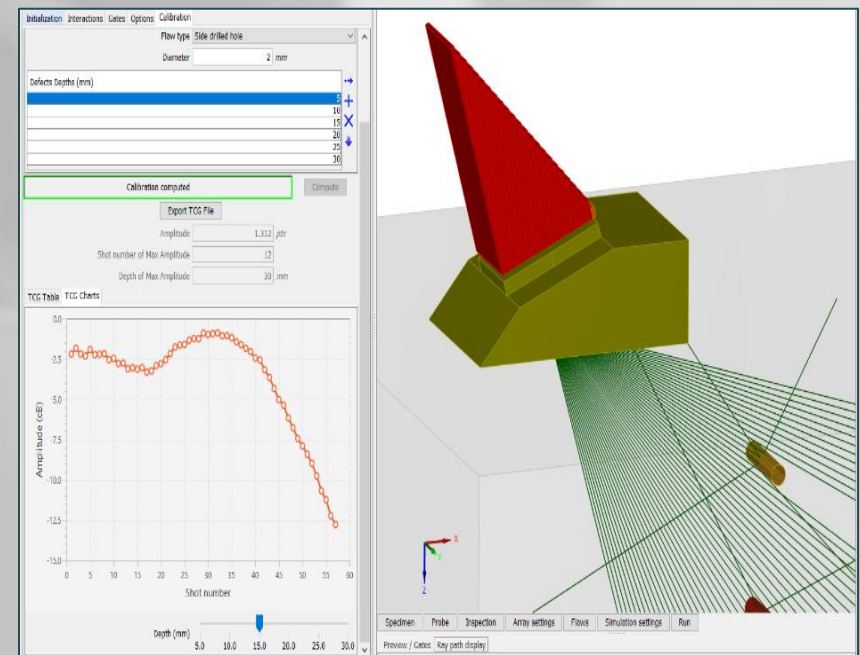


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Sonatest UFD 7A



Simulation

CAP 1933 confirms: The maximum permissible use of simulation for training purposes shall be $\leq 50\%$.

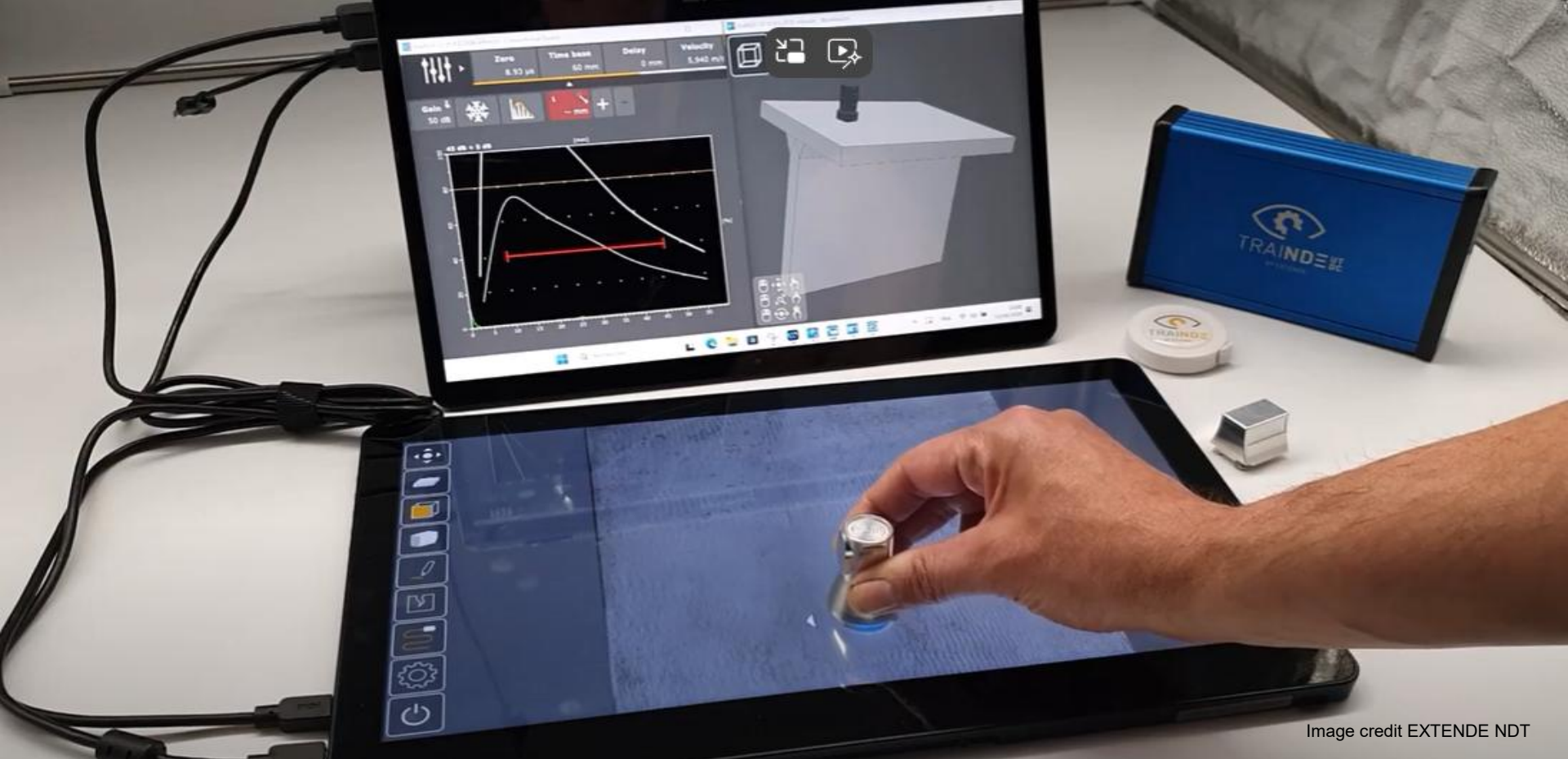


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Synthetic training devices



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Virtual reality



Image credit <https://www.miplsolns.com/virtual-augmented-reality-simulations.php>



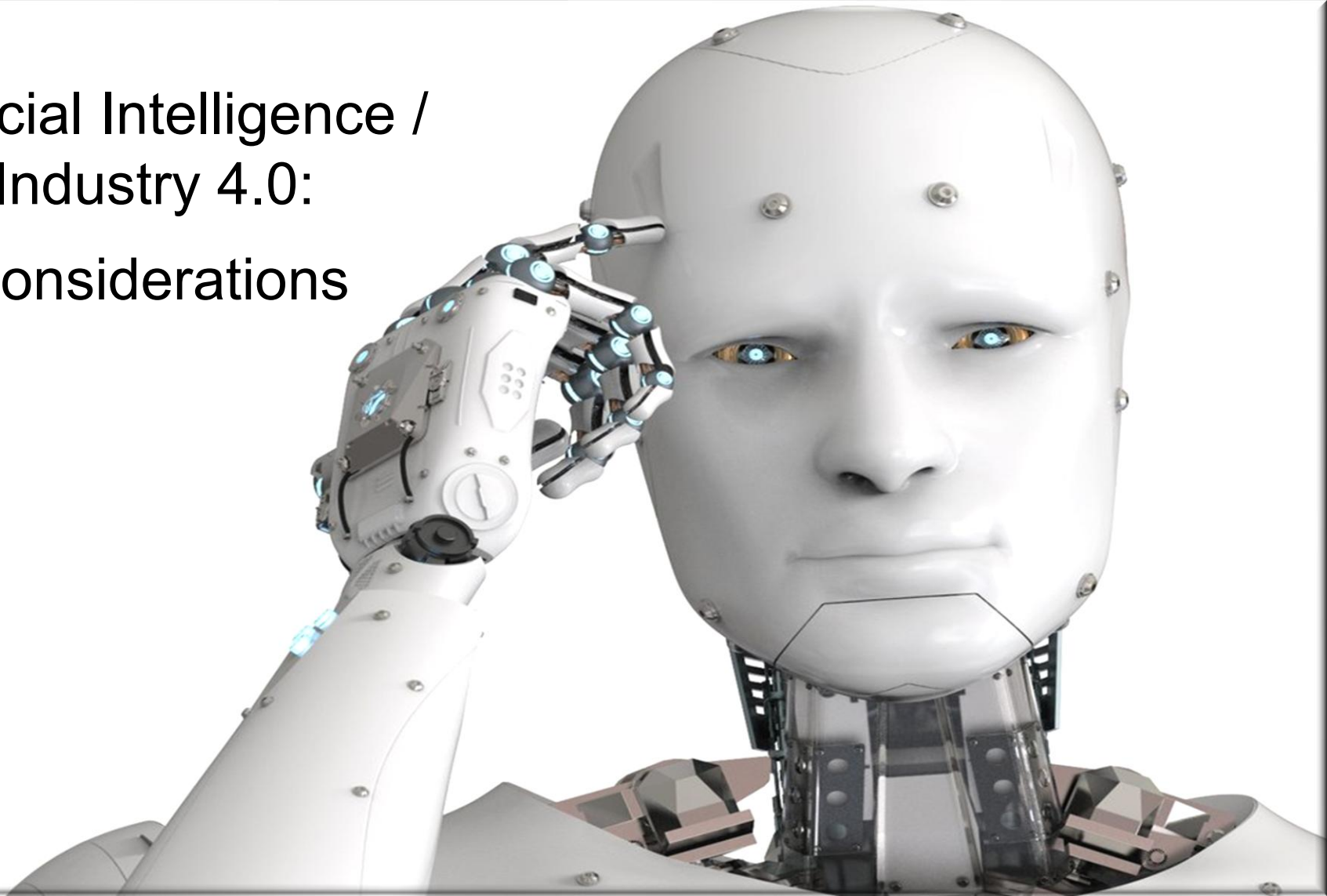
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Artificial Intelligence / Industry 4.0: Considerations



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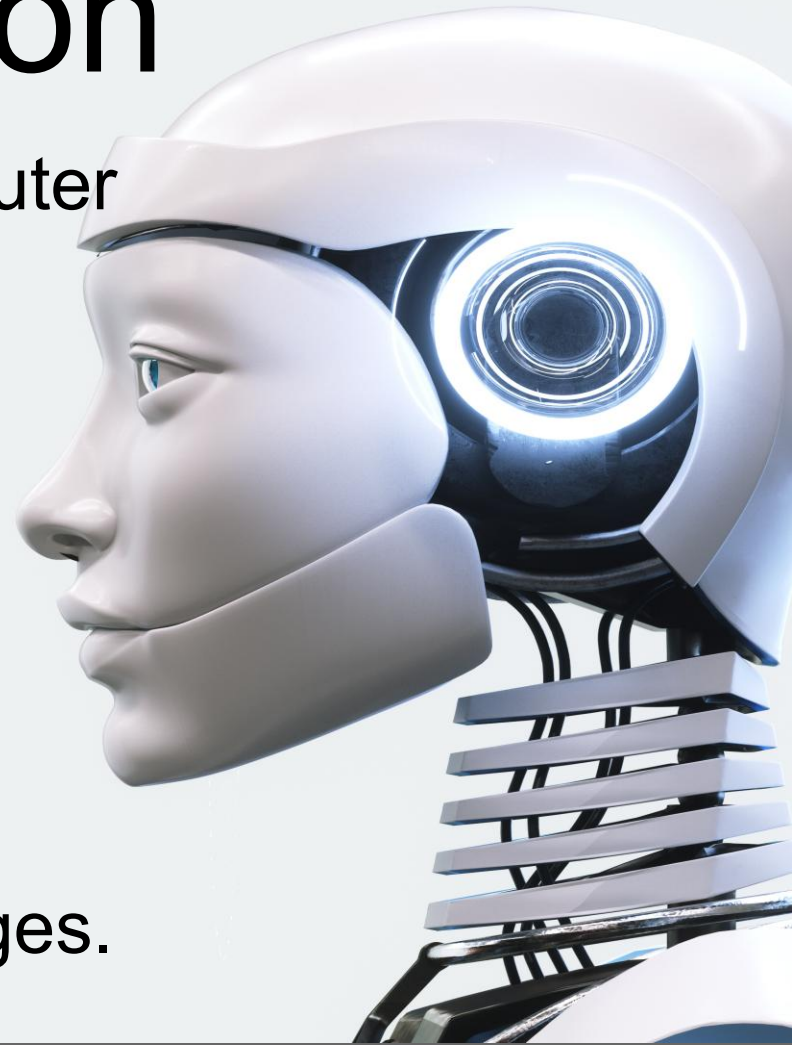
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Definition

Theory & development of computer systems:

Able to perform tasks requiring human intelligence, such as:

- Visual perception
- Speech recognition
- Decision-making, and
- Translation between languages.



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Considerations

- Develop training for AI / NDE 4.0.
- Moral, ethical, industrial and legal requirements.
- At what Level, PCN L1, 2, 3, Degree or other ?
- Input from equipment manufacturers
- Engagement across all industry sectors
- Delivery platform – Remote or in person
- How do we qualify delivery of training



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PCN/24 Scheme Governance



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Help



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Thank you for your time, any questions?



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