



Founding of the EFNDT WG10 for NDE 4.0

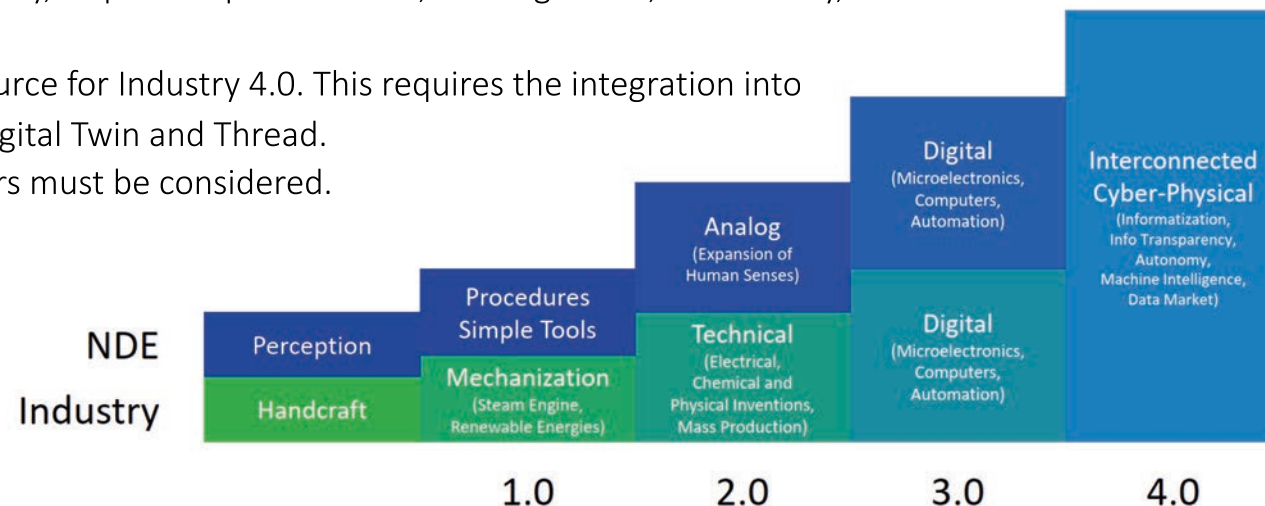
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Summary NDE 4.0

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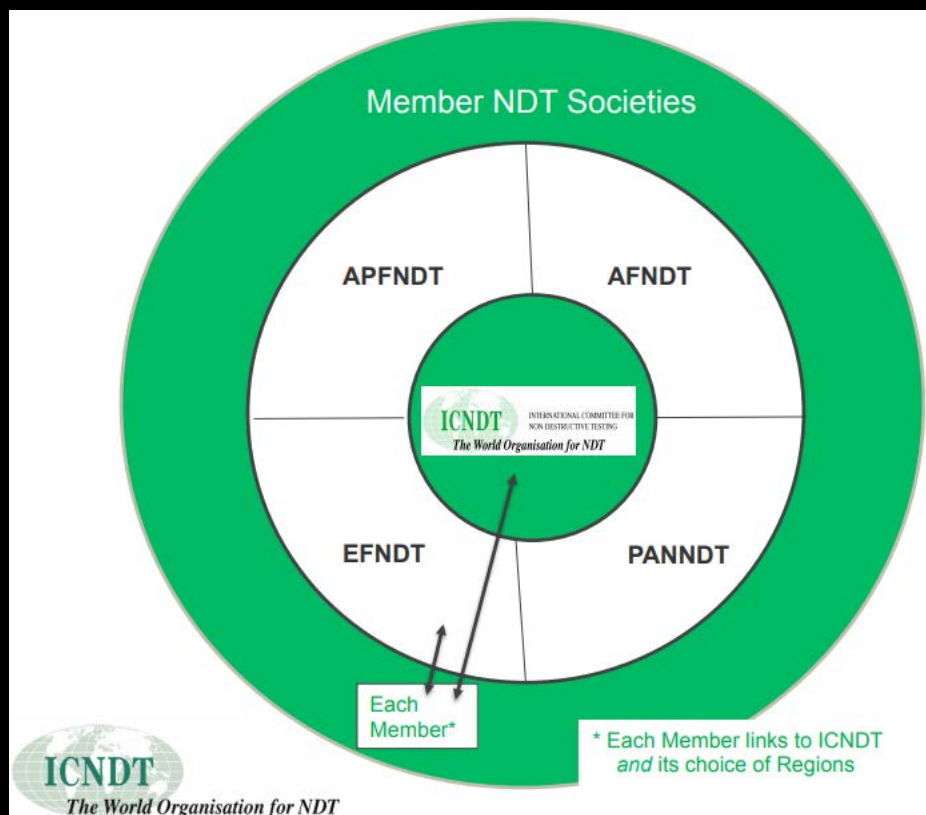
Industry 4.0 is the ongoing fourth industrial revolution and lives on data for its feedback loops and one of its biggest and most valuable data sources is NDE. Industry 4.0 leads to an improved production, maintenance, and design by analysing the data provided by the industrial internet of things using digital twins. Measures like artificial intelligence, big data processing, quantum computers or augmented reality allow to evaluate and visualise the data. Blockchains allow ensuring modification-proof storage and traceability and 5G the wireless connections needed by Industry 4.0. This will lead to big changes in NDE.

1. “Industry 4.0 for NDE” allows the use of Industry 4.0 emerging technologies to enhance NDE technologies and NDE data processing. Moreover it provides, with a statistical analysis of NDE data, insight into reliability, inspection performance, training status, consistency, and value of the inspections.
2. “NDE for Industry 4.0” paves the way for NDE as the ideal data source for Industry 4.0. This requires the integration into the IIoT, implementation of data transparency, and looking into Digital Twin and Thread.
3. Like with every revolution, the effects for humans and their careers must be considered.



Proposed General Tasks for EFNDT WG10 and Interaction with ICNDT SIG NDE 4.0

ICNDT at the heart of the Regions and the Members



ICNDT SIG NDE 4.0

- Preparation of NDE 4.0 Strategic Plan, incorporating NDE 4.0 Regional Plans
- Selection of the World Conference NDE 4.0 special session organiser
- Selection of the International NDE 4.0 Conference organiser
- Production of ICNDT NDE 4.0 publications, recommendations, documents and reports, including the ICNDT NDE 4.0 Guides
- Organisation of NDE 4.0 specialist international working groups, international forums and user groups
- Coordination of ICNDT NDE 4.0 Workshops to be held at World and Regional Conferences
- ICNDT NDE 4.0 publications, website and social media

EFNDT WG10 on NDE 4.0

- Preparation of NDE 4.0 EFNDT Strategic Plan
- Selection of the EFNDT Conference NDE 4.0 special session organiser
- (Selection of Organiser of EFNDT NDE 4.0 Conferences)
- Assisting new or fledgling NDE 4.0 Committees in the National Societies in EFNDT
- Providing guidance on NDE 4.0 EFNDT matters to ICNDT
- Provide NDE 4.0 EFNDT focus and link to Regional organisations interested in NDT
- Organisation of NDE 4.0 EFNDT input to specialist international working groups, forums and user groups
- NDE 4.0 EFNDT groups and forums where appropriate
- NDE 4.0 EFNDT websites and social media
- Production of NDE 4.0 EFNDT publications, recommendations, documents and reports, including NDE 4.0 EFNDT Guides

Objectives & Tasks

Objectives

- Establishing NDE 4.0 in Europe
- Ensure European values for NDE 4.0
- Ensuring a responsible approach to NDE 4.0, in particular regarding the reliability of the emerging technologies

Tasks

- Providing a communication platform between the interested European societies/stakeholders
- Development of an EFNDT Roadmap considering the ICNDT Roadmap for NDE 4.0
- Setting frameworks for common definitions
- Change existing standardization to enable NDE 4.0
- Create standardization for NDE 4.0
- Creation of memorandums of understanding, white & position papers, documents and reports
- Creation of a European approach for Training & Certification in times of NDE 4.0
- **Formation of consortia for joint research proposals (for example Horizon Europe)**
- Dedicated workshops on selected subjects

Proposed Agenda

Proposed Agenda for First Meeting of WG10

- Determination of the keeper of minutes
- Adoption of the agenda
- Establishing WG10 & EFNDT BoD Introduction Presentation an NDE 4.0
- Setting the necessary structure in accordance with EFNDT regulations for WGs, including
 - Election of convenor and deputy
 - Member structure
- Analysis and evaluation of WG potential and differentiation to ICNDT SIG NDE 4.0, NDE 4.0 committees in the national societies, and the TIC digitalization group
 - Tasks of WG10 – in contrast to national and ICNDT groups
 - Objectives of the WG10
 - Interested parties
 - Planning of invited presentations
- Planning future activities
- Establishing links to non-european experts and societies
- Scheduling of next meeting

Proposals

Proposal for EFNDT WG10 Member Structure

- Every member of the EFNDT WG10 shall be an ambassador for NDE 4.0 for their (National) Society/Stakeholder Group
- EFNDT WG10 Members:
 - Members should represent their societies
 - Members can be NDE 4.0 experts or have a strong interest
 - Responsibility of members: be an ambassador and not represent a company or research institute
 - One member per society plus backup

Proposal for EFNDT WG10 Activities

- Subgroups for specific topics (with additional participants), like
 - **Joint research proposals**
 - Roadmap development
 - Definition of common terminology
 - Certification and Training
- Invited lectures / presentations