AiNT – Academy and new innovation center of the GNS Group

Dr. Gözde Özden, Dr. Luc Schlömer
Transfer Workshop: ErUM-Scientist & Industry in Dialog
Aachen, 6-7 February 2025

AiNT

Presentation

CONSULTING & SERVICES

ACADEMY

RESEARCH & DEVELOPMENT

- Growing company with focus on consulting, training and development of nuclear radiation measurement technology including qualification

- Founded in May 2011

- Interdisciplinary team with approx. 20 employees

- Engineers, physicists, mathematicians, software developers.

- > 2 million euros turnover per year (average over the last four years)

GNS group

Becoming the largest German Enterprise ...

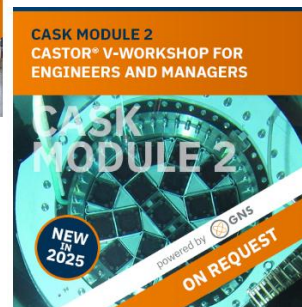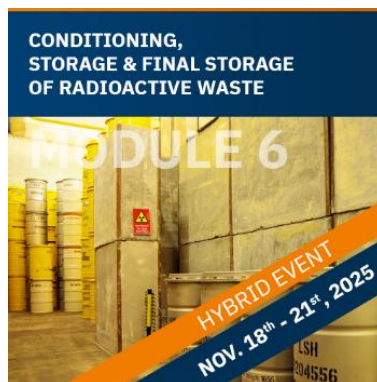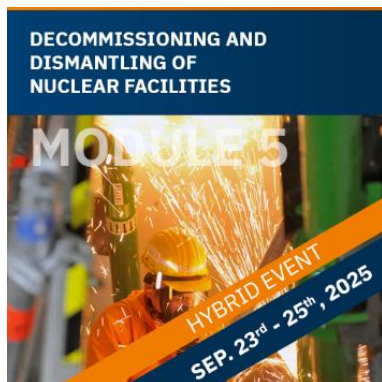**... for Nuclear Casks and Decommissioning, Dismantling & Disposal**

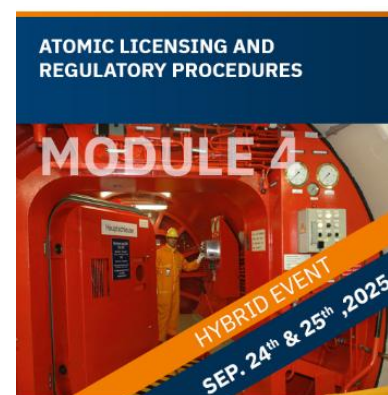Sites — GNS, EWB (GNS-Gruppe), H&B (GNS-Gruppe), WTI (GNS-Gruppe), GNS POWER ALLOYS, AiNT, GNS JAPAN

Peenemünde, Bassum, Sulingen, Gladbeck, Essen, Mülheim, Jülich, Aachen, Mainhausen, Alzenau

	2018	2025
Sites	6	12
Employees	450	1000
Sales in Mio. €	255	397

Seminar modules

BASICS OF NUCLEAR TECHNOLOGY
MODULE 1
HYBRID EVENT
MAR. 25th & 26th, 2025

MODUL 2
NEW!

DOCUMENTATION OF RADIOACTIVE WASTE FOR THE KONRAD FINAL REPOSITORY
MODULE 3
HYBRID EVENT
MAY 6th & 7th, 2025

ATOMIC LICENSING AND REGULATORY PROCEDURES
MODULE 4
HYBRID EVENT
SEP. 24th & 25th, 2025

DECOMMISSIONING AND DISMANTLING OF NUCLEAR FACILITIES
MODULE 5
HYBRID EVENT
SEP. 23rd - 25th, 2025

CONDITIONING, STORAGE & FINAL STORAGE OF RADIOACTIVE WASTE
MODULE 6
HYBRID EVENT
NOV. 18th - 21st, 2025

CASK MODULE 1 CASTOR® V-WORKSHOP FOR HANDLING STAFF
CASK MODULE 1
NEW IN 2025
powered by GNS
ON REQUEST

CASK MODULE 2 CASTOR® V-WORKSHOP FOR ENGINEERS AND MANAGERS
CASK MODULE 2
NEW IN 2025
powered by GNS
ON REQUEST

CASK MODULE 3 KONRAD® CONTAINER WORKSHOP „MODULE B"
CASK MODULE 3
NEW IN 2025
powered by GNS
SELECTIBLE DATE

See you @

iCOND

04. - 07. MAI 2026

AiNT EUROGRESS AACHEN

Academy

ICOND

Consulting & Services

- Support with process qualification for radioactive waste, including on behalf of Framatome
  - Preparation of documents
  - Accompanying the process qualification by BGE and consulted experts
  - Support for sampling and analysis
  - Radiological and material characterization of the waste packages
- Support/implementation of all phases of a measuring system's life cycle
  - Transport, assembly, commissioning, maintenance, operation, dismantling and disposal
- Planning and implementation of projects for approval in accordance with the Radiation Protection Ordinance
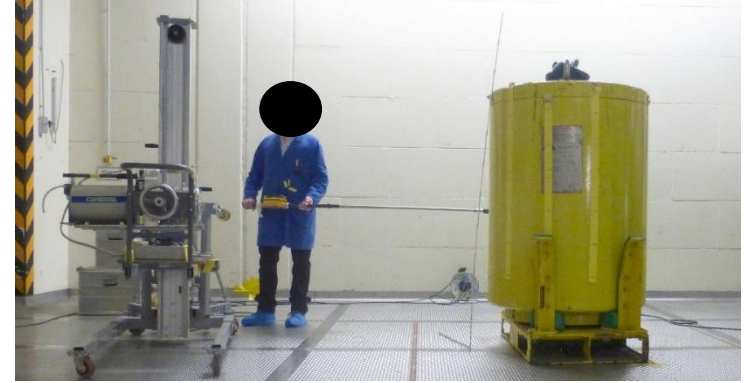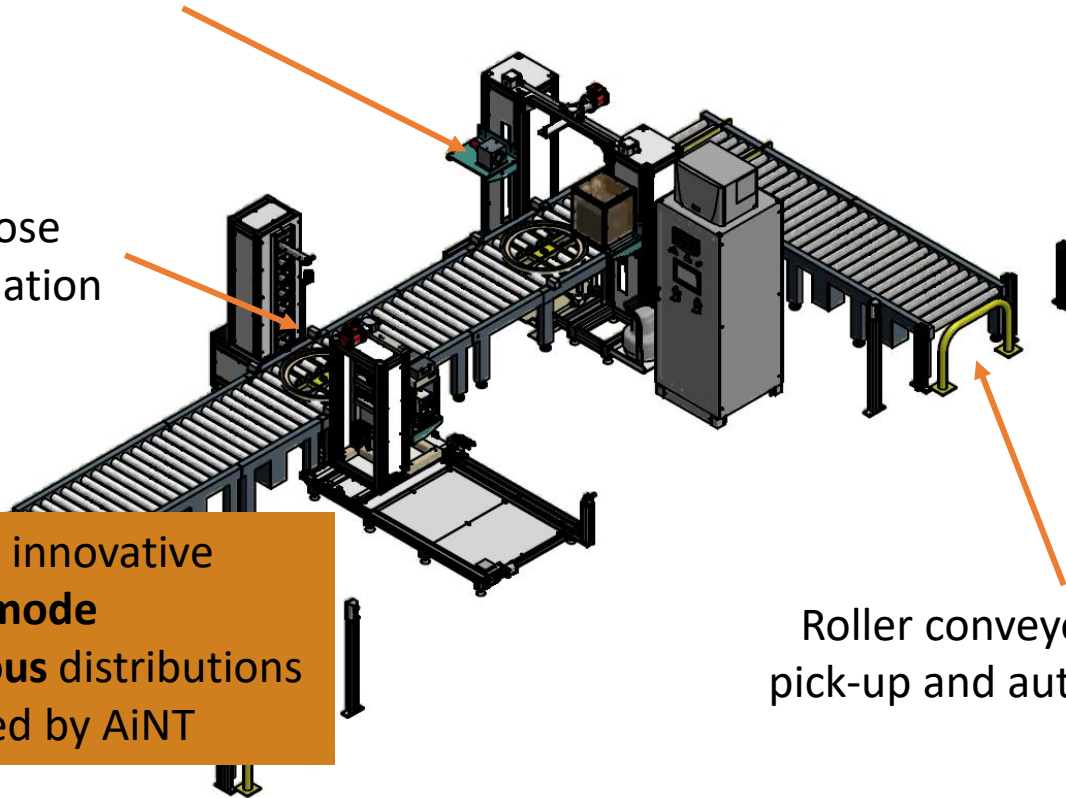
Drum measuring system:Low and high-level waste

in cooperation with

Radiation measurements with Europium-152 source

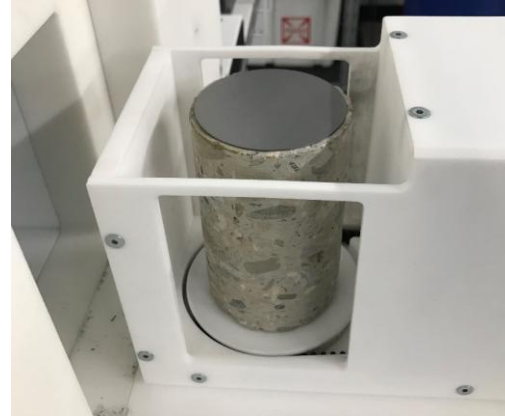Measurement of dose rate and gamma radiation

Evaluation in innovative **ASGS mode** for **inhomogeneous** distributions →developed by AiNT

Roller conveyor with drum pick-up and automatic loading

Element analysis

- Smartphone components
- Copper ore
- mineral samples
- Combustion residues

Source: Bernhard Ludewig

Research & Development:
Development of innovative measurement technology

Measuring systems for non-destructive element analysis and activity determination

EvalSpek-ML

- is funded by the BMBF in the framework of the ErUM-Data action plan (2023-2026).
- Measured data is analyzed using machine learning methods to optimize the evaluation of elementary characterization.
- From an industrial perspective, it is expected to use the spectral data for quick and reliable material characterization.

Research & Development using PGNAA
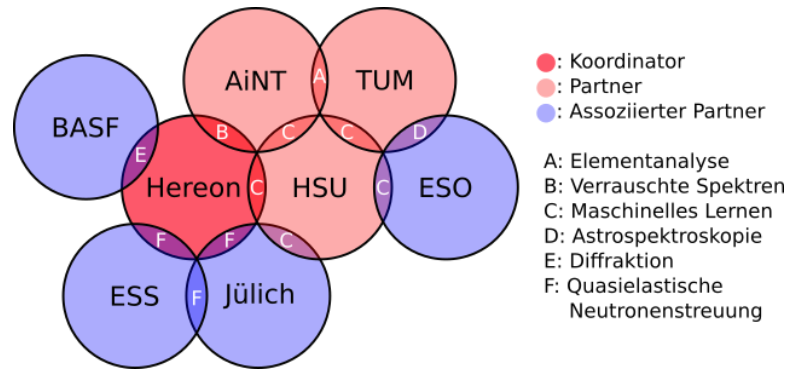
MetalClass/AlloySort

- is funded by Europian Union and state of North Rhine-Westphalia (EFRE/JTF-Programs NRW 2021-2027)
- a measurement method using AI to evaluate measurement data in seconds or even fractions of a second for the classification of metal scrap according to their composition
- to expand the process using further AI methods to determine the proportion of elements in the alloys directly in real time, thereby enabling the identification of unknown elements in scrap
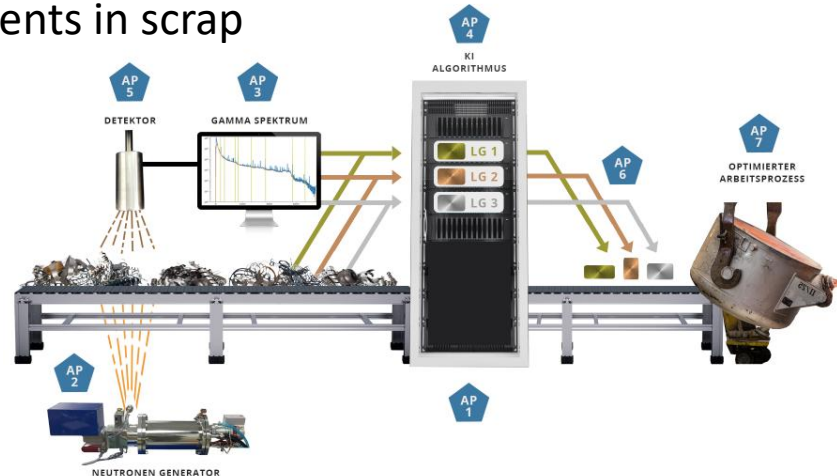
Enjoy the workshop!

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