FISA EURADWASTE 2025

SNETP Forum

WÖLFEL ENGINEERING GMBH + CO. KG

DIPL.-ING./ B.SC. THOMAS RIEF | COORDINATOR R&D

Wölfel

Developing people. Engineering the future.

PERSONAL DETAILS

- Studies of **Mechanical Engineering** and **Material Sciences**
  - B.Sc. in Mechanical Engineering (2011 Oregon State University)
  - Dipl.-Ing. in Material Science (2011 Saarland University)

- **Research Assistant** at Leibniz-Institute for Composite Materials (2015 – 2022)
  - Department of Design of Composite Structures
  - PhD Thesis pending

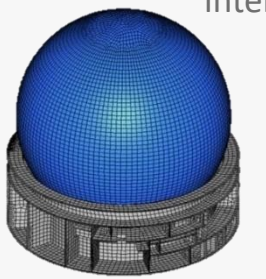
- **Coordinator R&D** at Wölfel Engineering GmbH + CO. KG (started 2022)
  - Responsible since 2023 for Plant Engineering including all topics related to Nuclear Power Plants

Dipl.-Ing. / B.Sc. Thomas Rief
Research and Development
Tel.: +49 931 49708-368
E-Mail: rief@woelfel.de

https://www.woelfel.de/en/

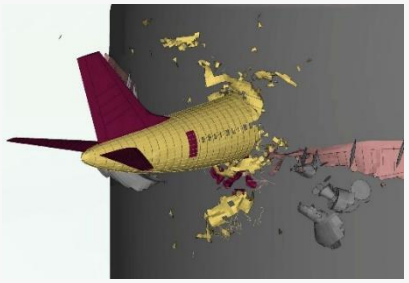
Wölfel Group
Max-Planck-Str. 15
97204 Höchberg / Germany

WHAT DOES WÖLFEL DO IN NUCLEAR FOR 50 YEARS?



Structural verification and design of buildings and components
for nuclear plants & installations | interim storage facilities & repositories | machine foundations | components e.g., vessels, piping, HVAC, I&C

Design for static & dynamic load cases
especially aircraft crash | earthquake | explosion | operational vibrations



Services for the full life cycle
newbuild | existing installations | seismic instrumentation | decommissioning

Research & development
risk assessment & development of protection capacity for critical infrastructures (RISK PROTEC CI project)

scenario-oriented foundations & innovative methods for reducing risk of power supply failures, taking into account the impact on population (GRASB project)

Work according to international standards
e.g., ASME | ASCE | EC | IEC | IEEE | KTA | RCC

DRIVERS FOR INNOVATION & STRENGTHENING COMPETITIVENESS

1. RESILIENT LOW CARBON ENERGY SUPPLY
    - New NPPs & SMR | Lifeteme extension | Fuel Efficiency & Autonomy | Resistance against external hazards & events
2. INNOVATION AND WORKFORCE QUALIFICATION
    - Next Generation of nuclear Expertise | Knowledge Transfer & Management
3. POLICY AND INVESTMENT FRAMEWORK
    - Harmonizing regulations | Secure funding possibilities

FISA EURADWASTE 2025

SNETP Forum

Enablers for innovative nuclear, strengthening the EU strategic competitiveness and autonomy

Ioana Davidescu – Case Manager,
State aid control in the energy sector
Directorate-General for Competition

14 May 2025, Warsaw, Poland

Ioana Davidescu

- *Case Manager at the Directorate-General for Competition of the European Commission, specialising in State aid control in the energy sector.*
- *Experience in competition enforcement overseeing several high-profile State aid cases involving nuclear newbuild projects, energy infrastructure, renewable energy technologies, coal phase-out, and various large investment projects.*
- *Previous experience in policy making at the Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs.*
- *Background in economics and finance, Master in Business Administration from the Central European University.*

Nuclear innovation and a competitive and decarbonised EU economy

Cost reductions and economic competitiveness	Flexibility and integration with renewables	Safety and public acceptance
- Advanced reactor design - Construction innovation - Improved fuel technologies	- Load following capabilities - Heat applications and hybrid energy systems	- Solutions for waste - Improved safety systems - Safer and cost-effective decommissioning

Important Projects of Common European Interest

https://competition-policy.ec.europa.eu/state-aid/ipcei_en

- Mobilized more than EUR 91 billion investments into R&D in microelectronics, batteries, hydrogen, cloud infrastructure, health, etc.
- Design support hub – dedicated technical and expert support to the Member States involved in the design phase of an IPCEI.

Enablers for innovative nuclear, strengthening the EU strategic competitiveness and autonomy

walter tosto
INNOVATION AND DELIVERY

FISA
EURADWASTE
2025

SNETP Forum

Massimiliano Tacconelli
14 May 2025, Warsaw, Poland

walter tosto
INNOVATION AND DELIVERY

BELLELI
ENERGY Critical Process Equipment

walter tosto
WTB

MASSIMILIANO TACCONELLI

Vice President Nuclear & Big Science Director

Vice President, TWG3 Supply Chain - EU Industrial Alliance SMR

- Background in Mechanical Engineering, Strategic Industrial Development, Industrial Marketing
- Driving technology transfer and advanced manufacturing in the nuclear sector
- Engaged in EU and global initiatives on Nuclear Fission and Fusion [Components Manufacturing]
- Actively contributing to EU nuclear policymaking initiatives, with a focus on bridging industry and institutional dialogue
- Advocate of “Artisanal Intelligence” in the age of AI

Driven to bring the voice of the nuclear supply chain to the forefront, especially the companies where know-how meets hands-on excellence

walter tosto

INNOVATION AND DELIVERY

Founded in 1960 as **a privately-owned** industrial company, we are **recognized for our excellence in manufacturing high-complexity steel equipment** for the **Energy** and **Industrial sectors.**

Our specialization is **built on** a **strong work culture**, the use of **strategic infrastructure**, and a **synergic balance** between **manufacturing tradition** and **cutting-edge technologies**.

Employees
1.350+

Value of Production
~ € 220 Mln / Year

Investments:
€ 75.Mln 5 Years

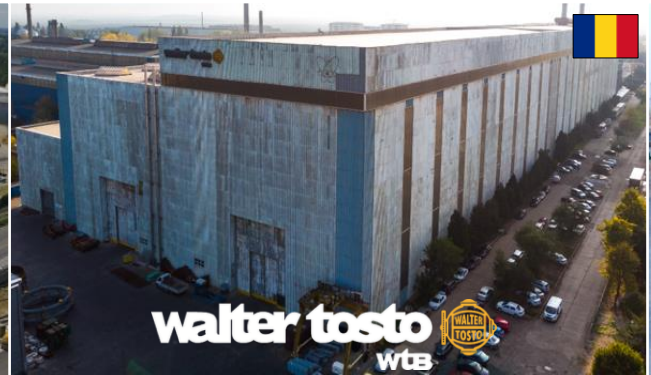
Gen. III+ New Nuclear Plants
NSSS and Turbine Island HX and Vessel for Steam and Water Cycles, Containments

SMRs
Reactor Vessel, Steam Generators and Special components. Including main Hxs and Containments

Gen. IV
Reactor Vessel, Steam Generators and Special components. Including main Hxs and Containments

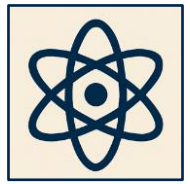
Fusion Energy
TOKAMAK Vessel, in-vessel components and special steel structure.

Decommissioning & Life Extension
Short-Term, Interim and Long-Term Storage Vessel, Parts or Entire ITEM replacement based on dwg.



Enablers for Innovative nuclear, strengthening the EU strategic competitiveness and autonomy'

competitiveness
/kəmˈpet.ɪ.tɪv.nəs/



autonomy
/ɔːˈtɒn.ə.mi/

Session Expectations
Reassess the nuclear supply chain as a main pillar for EU competitiveness and autonomy,
by addressing its key dimensions:

#Technological #Technical #Environmental

#Engagement #Commitment #Readiness #Innovation

FISA EURADWASTE 2025

SNETP Forum

Enablers for innovative nuclear, strengthening the EU strategic competitiveness and autonomy

Dr. Erika HOLT, Lead – Nuclear Back End,
VTT Technical Research Centre of Finland

14 May 2025, Warsaw, Poland

Erika HOLT, PhD

- Expert in radioactive waste management (20 years)
- Current role: Lead – Nuclear Energy Back End, at VTT Technical Research Centre of Finland. Earlier roles as Customer Account manager, Strategy manager, Team Leader, Principal Scientist.
- IMPA-B Certified Project Manager
- PhD Civil and Environmental Engineering (2021, University of Washington, Seattle, USA) – emphasis on concrete materials (BSc & MSc work related to geotechnical design & tunnelling, building materials pavement durability)
- Recently co-coordinator of Euratom PREDIS project (2020-2024) on innovation for pre-disposal of radioactive waste, 23.7 M€ and 47 partners
- Currently part of the Programme Management Office of Euratom EURAD-2 project (2024-2029) on radioactive waste management
- EU project work & management since FP5 (1998)

PREDIS

eurad 2
European Partnership
on Radioactive Waste Management

VTT Services to the nuclear sector globally

In-house code:
Serpent for reactor physics
– customers in 60 countries

Apros® for process simulations
– customers in 30 countries

1

Nuclear newbuilds and new nuclear country support

How to establish sustainable nuclear energy program.

2

Nuclear power plant life management

Support to take most of asset, e.g life extension
Maintain required level of safety

3

Nuclear decommissioning

Save resources using the experience from research reactor dismantling

4

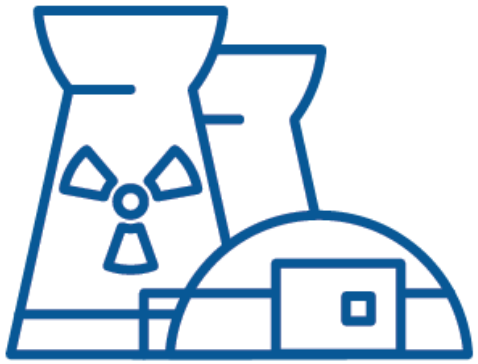
Nuclear waste management and disposal

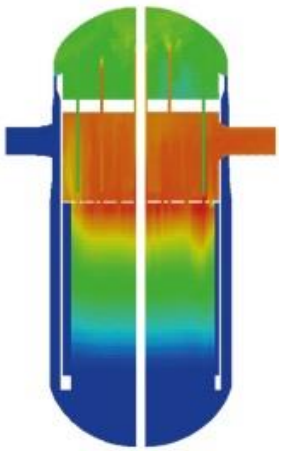
Develop cost-effective methods and processes for all Waste streams

5

Future of nuclear

Innovations – e.g. District heating reactor
Economics of SMR
Advance business through ecosystems





Drivers for Innovation & Strengthening Competitiveness

- **Understanding** of needs & opportunities
  - Awareness of market & competition
- **Engagement** with end users / industry
  - Ability to use “real” parameters, readiness for upscaling
- Cross-sectoral and regional **collaboration**
  - Eco-systems & adapting from other sectors
- Ability to take **risks**

Expectations for session: learning from others about successful practices & setting cooperative action points for improvement

IAEA

FISA EURADWASTE 2025

SNETP Forum

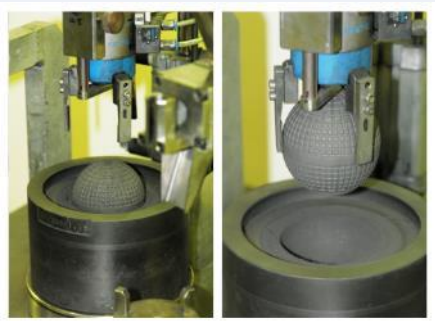
Enablers for innovative nuclear, strengthening the EU strategic competitiveness and autonomy

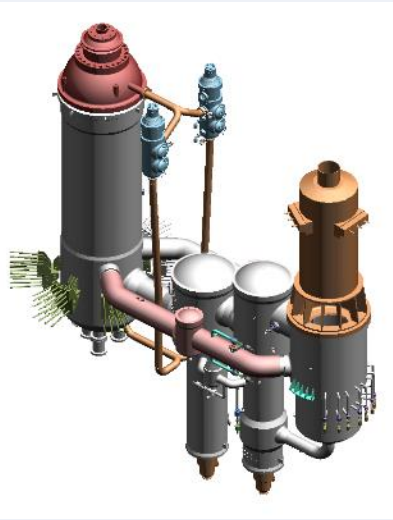
Frederik Reitsma

Nuclear Power Technology Development

Division of Nuclear Power

IAEA



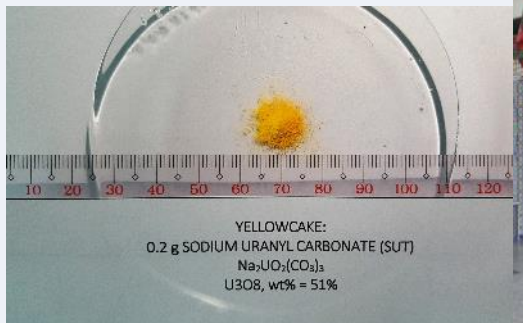


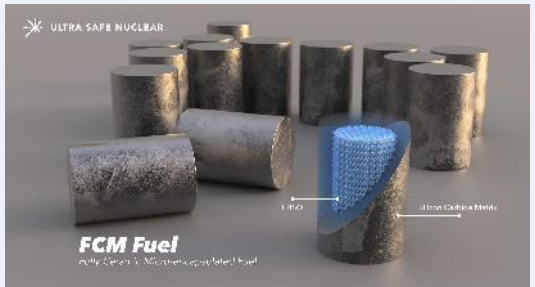
Frederik Reitsma

Section Head
Nuclear Power Technology Development

F.Reitsma@iaea.org

- Reactor Physicist with MSc in Reactor Science
- Core analysis and OSCAR software development for MTR Research Reactors (Necsa South Africa) 1989 – 2006)
- Core design and safety analysis of the Pebble Bed Modular Reactor (1999-2012)
- Core designer at STL (Thorium pebble bed)
- Technical Lead SMR and HTGRs at IAEA (2013-2020)
- Director of Analysis for Ultra Safe Nuclear (2020-2024)
- Section Head at IAEA since June 2024
- Worked at 4 startups.., contributions to OECD NEA, GIF and GEMINI4.0





The International Atomic Energy Agency

Total Membership: 180 (as of 15 November 2024)

The International Atomic Energy Agency is the world's central intergovernmental forum for scientific and technical cooperation in the nuclear field. It works for the safe, secure and peaceful uses of nuclear science and technology, contributing to international peace and security and the United Nations' Sustainable Development Goals.

6 Departments

ORGANIZATIONAL STRUCTURE

Offices Reporting to the Director General

- Management
- Technical Cooperation
- Nuclear Energy
- Nuclear Safety and Security
- Nuclear Sciences and Applications
- Safeguards

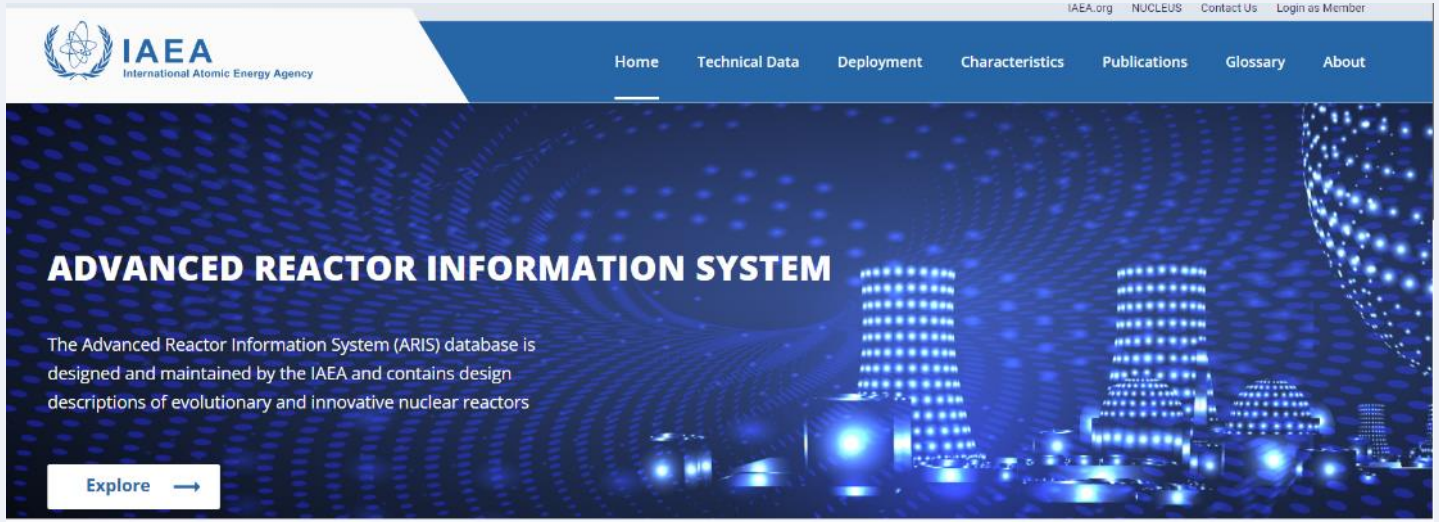
Nuclear Fuel Cycle and Waste Management

Nuclear Power

Planning, Information and Knowledge Management

Nuclear Power Technology Development Section

Fostering information exchange and collaborative research and development for advanced nuclear reactor technologies, this Section provides information to the IAEA's Member States on technology status and development trends for advanced reactor systems and their applications. Read more →



Advanced nuclear reactors, non-electric applications and Fusion technology:

- Information sharing, Publications, Training, Simulators
- Joint research projects, Toolkits, E-learning
- Coordination with GIF, Euratom, OECD NEA, etc

Enablers for Innovative nuclear, strengthening the EU strategic competitiveness and autonomy

Energy planning and Economics

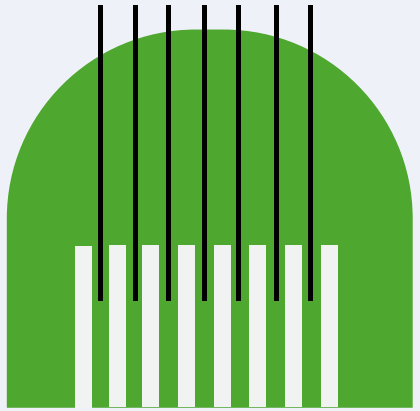
Technology Development and Deployment
- ARIS Database
  SMR Booklet

Reactor Technology Assessment

Approaches to Commissioning and Operation

Fuel, Safe management of Spent Fuel, Radioactive Waste and Decommissioning

IAEA Platform on SMRs and their Applications



Nuclear Harmonization and Standardization Initiative

Legal Frameworks for safety, security, safeguards and civil liability for nuclear damage

Safety & Security
- Applicability of Safety Standards and Security Guides
- Emergency Preparedness and Response

Safeguards-by-Design

Infrastructure Development

Technical Cooperation

URGENCY, COMMON APPROACH, PRIVATE PARTNERSHIP, ADVANCED TECHNOLOGY, FINANCE