



25 YEARS OF NORM SYMPOSIA

FUTURE: RESIDUES APPLIED IN A CIRCULAR ECONOMY

May 9 - 13 2022

Utrecht, The Netherlands



Slag applied in dyke construction
Courtesy: Project Organisation Water Safety (NL)



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Sponsor prospectus

In cooperation with:



IAEA

International Atomic Energy Agency



ICRP



UNSCEAR

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on the Effects of Atomic Radiation



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Australian Government

**Australian Radiation Protection
and Nuclear Safety Agency**

ENA European NORM Association





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Invitation

Dear prospective exhibitors/sponsors,

The European Union Council Directive 96/29/Euratom for the first time ever 'regulated' natural radioactivity associated with natural resources. This triggered a series of NORM Symposia, during which regulators, radiation protection professionals and industrial representatives from all over the world discussed the radiation protection aspects of exposure to naturally occurring radioactive material (NORM) of workers, the population and the environment. The first Symposium, nowadays known as NORM I, was held in 1997 in Amsterdam, the Netherlands. Since 2004 (NORM IV, Szczyrk, Poland) the International Atomic Energy Agency (IAEA) actively became involved in co-organising these international Symposia on NORM in a three year cycle and also started to issue the proceedings of these Symposia, thereby making these a premier global NORM event.

Under the auspices of the Dutch Society for Radiation Protection (NVS), the foundation Radiation Protection Symposium North-West Europe (working title foundation "NORM X") is pleased to host the next international Symposium on NORM, both being the 2nd Lustrum symposium and 25 years after the 1st Symposium. Building on the outcomes of former NORM Symposia and the current needs of planet Earth, the theme for this Lustrum Symposium encloses looking back what has been achieved in 25 years of NORM Symposia and looking forward to Residues Applied in a Circular Economy.

Special to this Symposium are two additional associate events from organisations with a strong interest in NORM issues: the embedment of the 3rd bi-annual meeting of the European NORM Association (ENA) and the 8th annual Ricomet meeting of the Social sciences and Humanities in ionising radiation Research (SHARE) platform. Apart from the ENA general assembly, both associate event sessions are open to all NORM X participants.

The five day programme of the Symposium will offer a whole range of plenary, parallel and poster sessions on NORM issues relevant for radiation protection in its broadest sense: legislation & regulations, radon/thoron, mining & processing of natural resources (U-, Th-, Ta/Nb-, rare earth-ores, mineral sands, phosphate rocks, coal, oil & gas and geothermal energy), decommissioning & environmental remediation and management of residues & waste contaminated with naturally occurring radionuclides. Next to this, participants may opt to join a technical visit to NORM affected sites or NORM facilities in the Netherlands and northern Belgium.

There will be plenty of opportunities for sponsors and/or exhibitors for full audience or personal contacts. From the experience of the most recent international NORM Symposia (NORM VIII and IX) we may expect more than 300 participants from all over the world. The radiation protection professionals cover a wide variety of industry branches, scientific institutes, NORM consultancy and NORM service (analysis, decontamination, etc.) firms. These radiation protection professionals play an important role in decisions concerning the monitoring methods and instruments to be used, the investment in analytical equipment to be applied and the selection of NORM decontamination/remediation service companies.

The Symposium provides you with an excellent opportunity to meet these radiation protection professionals, expert consultants and industrial representatives from around the world by means of the exhibition of your products and/or services and/or sponsoring the Symposium. More information about these opportunities is presented in this prospectus. We look forward to welcome your company or institution as an exhibitor or sponsor during the 10th international NORM Symposium!

Jan van der Steen
Symposium President

Gert Jonkers
Symposium Treasurer & Sponsorship Coordinator

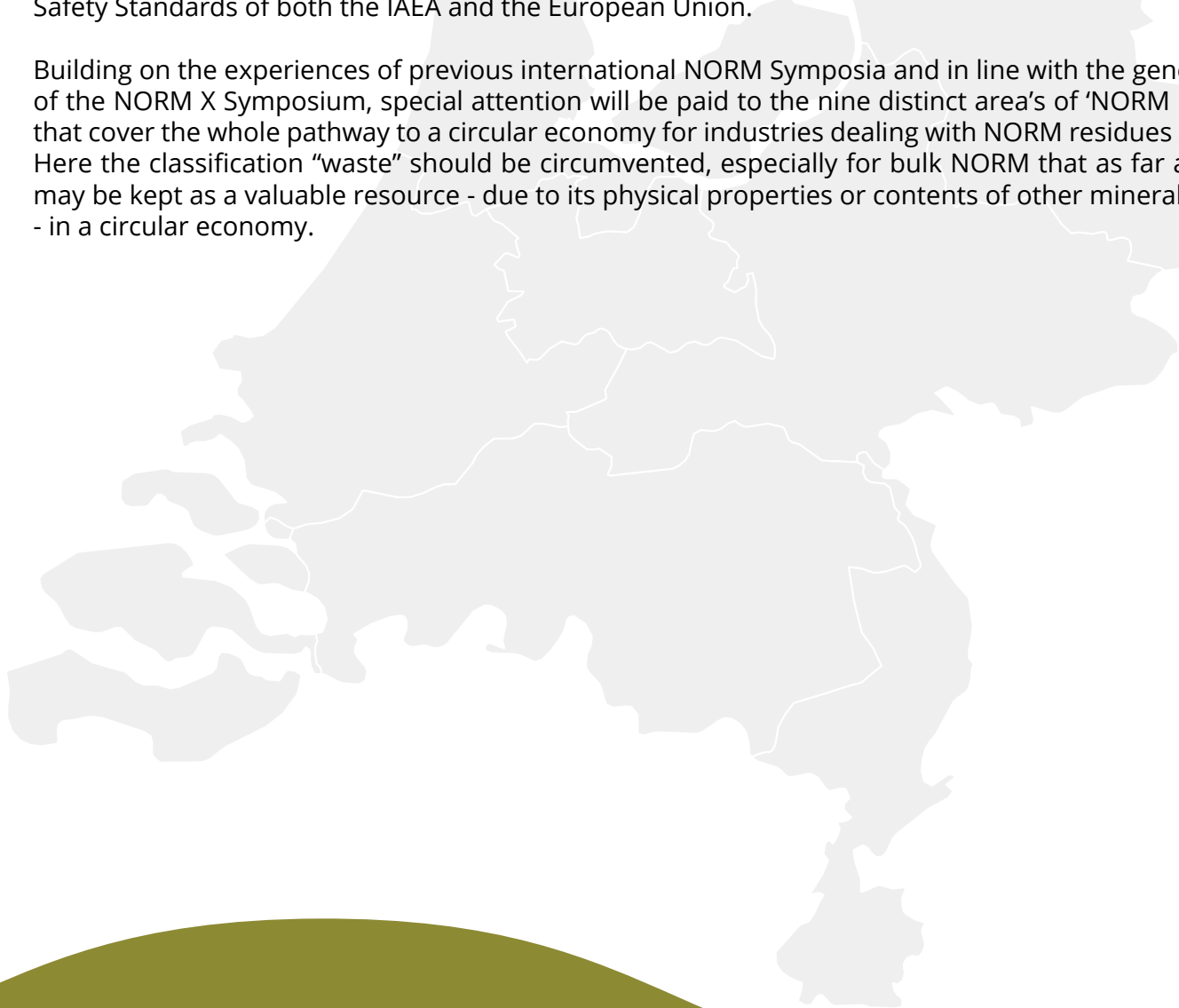


25 years of NORM Symposia - Future Circular Economy

NORM X aims to provide a forum for the industrial, technical, scientific, and regulatory communities involved in the management of NORM and to disseminate the results of scientific information, research and knowledge. The theme implies a special focus on challenges to apply residues with elevated levels of natural occurring radionuclides in a circular economy, but contributions showing the latest developments within their country or industry related to any NORM issues from cradle to grave are also welcomed.

The goal is to harmonise issues and methods of addressing proper management of NORM residues with guidance on applications including practical case studies. Next to this special focus, NORM X will also provide the opportunity to review the progress that have been achieved since NORM IX in disposal, radiation protection, management, research, etc. The targeted audience of this Symposium is a variety of stakeholders including various NORM industry sectors, transport, NORM disposal facilities, etc., as well as researchers and regulators. The presentations and sharing of information should lead to increased harmonisation of operational aspects, to remove operational hurdles without compromising (radiation) safety and wider application of international guidance, regulations and requirements, including the Basic Safety Standards of both the IAEA and the European Union.

Building on the experiences of previous international NORM Symposia and in line with the general theme of the NORM X Symposium, special attention will be paid to the nine distinct area's of 'NORM in practice' that cover the whole pathway to a circular economy for industries dealing with NORM residues and waste. Here the classification "waste" should be circumvented, especially for bulk NORM that as far as possible may be kept as a valuable resource - due to its physical properties or contents of other mineral resources - in a circular economy.





Symposium topics

The programme will feature a series of keynote plenary presentation sessions, parallel topical sessions, poster sessions, plenary summaries and provide focused forums. The plenary sessions, featuring world-leading NORM experts and NORM practitioners, will highlight the current state of key topics. The final plenary session will identify the principal conclusions and outcomes from the Symposium.

The preliminary programme contains nine topical sessions and sixteen organised parallel sessions. These sessions will provide oral presentations of submitted papers and selected keynote presentations, reflecting the scientific and practical areas defined by the topics and subjects:

25 years of NORM Regulation

Experiences, strengths and challenges dealing with national and international recommendations, guidelines and regulations on NORM. This topic can be observed from different points of view e.g. regulations, industry, radiation protection, stakeholders, etc.

Fundamental and practical implementation aspects of regulations

- i. Sustainability in the system of radiation protection and management of radiation exposure in industrial operations involving NORM.
- ii. Fundamental safety and security objectives and principles of protection, safety and security, radiation protection culture and education and training herein.
- iii. Practical implementation of the regulation; integration of radiation protection against NORM with other hazards; graded approach for optimisation, proportionate to the level of risk.
- iv. What is the process leading to a reasonable and sustainable management of NORM, what would be the elements to consider that the situation is not or no longer tolerable?

Current and future challenges – NORM tailings and residues in a Circular Economy

- i. Management and use of tailings and residues to meet UN Sustainable Development Goals, notably SDG 12.5 reduction/elimination of waste. Reduce or eliminate accumulation and disposal through recovery and reuse. Alignment with Environmental, Social and Governance financing principles. Related procedures for sustainability reporting.
- ii. Integrate NORM tailings and residues in a circular economy: reclassification as co- or by-products; interim storage as current or future “reusable raw materials”; whole life-cycle management with End of Life planning; Graded Approach to use; Proportionality Principle applied to risk- and cost-benefit analysis; secondary for primary resource substitution to conserve primary resources and reduced land use allocation to disposal; minimum use target to promote R&D and market uptake.

Environmental Aspects of NORM

- i. Experiences and challenges in reaching sustainable environmental practices in industrial operations with NORM residues leading to a circular economy.
- ii. Environmental impacts associated with NORM residues.
- iii. Environmental remediation of NORM contaminated sites; remediation of legacy sites.



Industry

- i. Operational practices at both industrial- and artisanal-scale handling, recovering and reusing economically valuable NORM by-products e.g. structures, equipment, tailings and residues involving NORM.
- ii. Support for industrial and artisanal processes involving prevention and minimisation of residues, waste storage/disposal facilities, decommissioning projects including occupational, public and environmental radiation safety and protection.

NORM Sampling & Metrology

- i. Applied sampling/monitoring and metrology strategies.
- ii. Advantages and disadvantages of destructive and non-destructive metrologies.
- iii. ISO-standards, site/industrial specific assessments, etc.

Stakeholder engagement and public communication

- i. Enhancing regulatory/public acceptance and radiation protection aspects of (new) developed products containing "reused/recycled" materials/residues, etc.
- ii. Enhancing risk/dose communication, including risk perception, in relation to NORM in a sustainable society, especially in reuse and recycling of NORM residues, remediation of legacy (potentially contaminated) sites.
- iii. Enrich communication expertise, public engagement, stakeholder involvement, technical communication with the regulator, etc.

Research and Development

- i. Investment in new product development for valorisation and reuse of NORM by-products within the circular economy.
- ii. Development of supporting measures for operational management preventing/minimising NORM waste, decommissioning of installations, environmental remediation and maximising positive and minimising negative effects on people and environment.

Transportation of NORM classified materials

- i. National and international regulations, challenges and daily practice.
- ii. Prevention of closed borders, harmonisation of the implementations of IAEA transport regulations, etc.





Symposium characteristics

Additional to the main plenary and topical presentations, refresher courses on several subjects may be attended, poster sessions will be held, technical visits to NORM sites will be planned where operational radiation protection plays an essential role and a social programme will be organised.

Symposium App

A dedicated Symposium application programme ("Symposium app") for smart phones (under development, advertising options explored) will allow participants to define their own personal Symposium programme and to contact each other and/or exhibitors/sponsors to make individual appointments.

Refresher Courses

A system for refresher courses will be employed in the early morning hours of Tuesday, Wednesday and Thursday. Thus we offer participants the possibility to compose a coherent and concise programme of refreshers. Some of these refresher courses may be combined with a technical visit.

Technical Visits

A limited programme for technical visits has been set up on Wednesday to NORM affected sites and/or NORM detection/storage/decontamination facilities. Participants are offered the option to witness radiation protection measures at these sites and/or facilities.

Posters

Via the "Symposium app" participants will be able to contact each other to make an appointment to show/discuss a poster at a time slot convenient to both poster presenter as explication requestor.

Social Programme

A welcome reception, a symposium dinner and a tour to several typical bars in downtown Utrecht are planned.



General information

Organisers

The Dutch Society for Radiation Protection 'Nederlandse Vereniging voor Stralingshygiëne' (NVS) is pleased to organise - via the foundation "NORM X" - and host the upcoming 10th International NORM Symposium in 2022 in Utrecht, the Netherlands. The NVS constitutes of almost 900 national members, from which many are involved and interested in the organisation of NORM X showing a large interest in the field of radiation protection in the Netherlands.

The NVS is an associated society of the International Radiation Protection Association (IRPA, ca. 18,000 individual members) with as main purpose to provide a medium whereby those engaged in radiation protection can easily communicate with each other and through this process improve radiation protection in many parts of the world. This includes branches of knowledge such as science, medicine, engineering, legislation and industrial technology (incl. natural radioactivity in mining and processing ores), to protect mankind and its environment against the hazards caused by ionising radiation and thereby implicitly facilitating the safe application of medical, scientific and industrial radiological practices for the benefit of mankind.

The International Atomic Energy Agency (IAEA) has been a co-organiser of the International Symposia on NORM since the turn of the century when it became more clear that exposure to ionising radiation emitted from natural resources c.q. processed (by-)product streams ("materials") contaminated with Naturally Occurring Radionuclides required attention from a radiation protection point of view. The IAEA Safety Standards provide a system of fundamental safety principles and reflect an international consensus on what constitutes a high level of safety for protecting people and the environment from the harmful effects of ionising radiation.

NORM X is organised in cooperation with the European NORM Association (ENA), that has been formed by merging the NORM networks "European ALARA Network on NORM (EAN_{NORM})" and "EU NORM" and also includes the "NORM4Building" consortium. The ENA was officially founded in 2017 in order to be stronger and more efficient and to avoid duplication of efforts related to NORM issues. ENA brings together European expertise in the field of NORM and is expected to be recognised as a counterpart for the industry, research and politics at the European level as unbiased consultation for new regulations and guidelines. In this respect the embedment of the 3rd bi-annual ENA meeting fits seamlessly, but clearly recognisable into the NORM X programme.

Also the Social sciences and Humanities in ionising radiation REsearch (SHARE) is cooperating in the organisation of NORM X. SHARE is a platform responding to a growing awareness that the input of Social Sciences and Humanities (SSH) to research and innovation in the field of ionising radiation applications has not been systematic and is reducing the capacity for society to act in effective and meaningful ways. Insufficient integration of SSH research/findings in NORM projects may lead to unresolved risk management decisions or confusion in public opinion regarding radiation protection issues, e.g. low public acceptance of decisions related to NORM issues like mining and processing operations, NORM residue recycling vs. NORM waste management, high risk perception of ionising radiation, lack of Radon/Thoron awareness. In this respect the embedment of the 8th annual international Ricomet conference fits seamlessly, but clearly recognisable into the NORM X programme.



The Netherlands / Utrecht

The Dutch – all 17,5 million of them – live in 41,528 square kilometres, little more than half the size of Scotland. This makes the Netherlands one of the world's most densely populated countries. The Netherlands is best known for its tulips, windmills and clogs. It is also known for its low altitude and vulnerability to flooding.

Less well known is that the Netherlands has the 16th largest economy in the world and ranks 10th in gross domestic product (GDP) per capita. Equally little known is that several Dutch scientists have won Nobel prizes for chemistry, physics, medicine, economy and peace or that the world's planners and architects flock here to learn about Dutch solutions for this crowded country.

Utrecht is the fourth-largest city (population around 360,000) and located in the very centre of the Netherlands. Utrecht's ancient city centre features many buildings and structures, several dating as far back as the high middle ages. Utrecht was the most important city in the Netherlands until the Dutch Golden Age, when it was surpassed by Amsterdam as the country's cultural centre and most populous city. Another landmark is the canal structure in the inner city: the 'Oude Gracht' is a curved canal, partly following the ancient main branch of the Rhine river, lined with the unique wharf-basement structures that create a two-level street along the canals.

The inner city has largely retained its medieval structure, and it may be no surprise that Utrecht will celebrate its 900th anniversary in 2022. Due to its central position within the country, it is an important hub for both rail and road transport. It has the second highest number of cultural events in the Netherlands. Utrecht hosts several museums like the railway museum, the Catharijneconvent (religious art), the Speelklok museum (specialised in self-playing musical instruments, incl. the famous Dutch street organs) and the Miffy museum as Miffy's spiritual father, Dick Bruna, lived and worked in Utrecht. For those who have had enough of Utrecht, Amsterdam and Rotterdam are just a half-hour train ride from Utrecht, while the famous Kröller Müller museum (huge 'van Gogh' collection) is just an hour's drive away.

Venue / Jaarbeurs

The Jaarbeurs (Dutch for 'Annual Fair') is a large exhibition and convention centre in Utrecht, the Netherlands. The Jaarbeurs extends to an area of 100,000 m² is located at walking distance from Utrecht Central (railway) Station. Within the Jaarbeurs the symposium will be held in the 'Supernova' area with several halls like 'Progress' (plenary hall may contain up to 400 people) and two rooms 'Expedition' and 'Quest' for parallel sessions and associate events (up to 100 people each).





Become an exhibitor/sponsor at NORM X

The different offered packages are mentioned in the table below. Besides the standard exhibition and sponsorship packages there are some additional sponsor options (next page) as well.

Package name	Description	Price
Alpha-exhibitor	3 x 2m Standard NORM X booth 4x exhibitor entrance pass Logo on website (large) 1x exposure in plenary session 1x exposure in parallel session 1x symposium bag insert	€ 5.000,00
Beta-exhibitor	3 x 2m Standard NORM X booth 3x exhibitor entrance pass Logo on website (medium) 1x exposure during break 1x exposure in parallel session 1x symposium bag insert	€ 4.000,00
Gamma-exhibitor	3 x 2m Standard NORM X booth 2x exhibitor entrance pass Logo on website (small) 2x exposure in parallel session 1x symposium bag insert	€ 3.000,00
X-exhibitor	3 x 2m Standard NORM X booth 1x exhibitor entrance pass	€ 1.750,00



Other sponsoring options

The table below show different separate sponsoring options, besides the packages mentioned on the previous page.

Option	Price
Symposium bag with your logo imprint	€ 1.500,00
Lanyard with your logo imprint	€ 750,00
Pen (insert in symposium bag)	€ 500,00
Note block (insert in symposium bag)	€ 500,00
Coffee/tea (your logo advertised at coffee/tea service points)	€ 500,00
Reception (special mentioning of your company)	€ 250,00
Dinner (special mentioning of your company)	€ 750,00
Symposium app (front page of the app opens with your logo)	€ 3.000,00

Please contact the symposium secretariat (info@normx2022.com) for more information on all the different options.





Contact

Symposium website

www.normx2022.com

Symposium location

Jaarbeurs

Jaarbeursplein, 3521 AL Utrecht

<https://www.jaarbeurs.nl/en/organiser/supernova>

Symposium secretariat

If you have any questions regarding this symposium please contact:

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