



SNETP

SUSTAINABLE NUCLEAR ENERGY
TECHNOLOGY PLATFORM

Newsletter n° 15 - October 2018

EDITORIAL

It is my pleasure to update you on the last developments in the different SNETP pillars. NC2I published its Vision Paper at the end of August and early October was busy with the HTR2018 conference gathering the international communities on high-temperature reactors and nuclear cogeneration.

The NUGENIA Executive Committee held its last session late in September in Budapest and took the opportunity to know better the Hungarian nuclear R&D stakeholders. The meeting was hosted by MTA EK and Bay Zoltan and various high-level speakers presented their respective R&D programme.

For ESNII, last but not least, on September 7, 2018, the Belgian federal government announced "the realization of a new large research infrastructure in Belgium: MYRRHA" (Multi-purpose hYbrid Research Reactor for High-tech Applications), an important result of efforts over the course of the last twenty years, at the Belgian Nuclear Research Centre, SCK•CEN. It shall be the very first prototype of a nuclear reactor driven by a particle accelerator in the world. As the result of the last council of ministers, the federal government decided to extend the funding allocated to this innovative project.

Hamid Aït Abderrahim (SCK-CEN), Chair of the SNETP Governing Board.

SNETP NEWS

SNETP calendar

10 October 2018 - Warsaw, NC2I Task Force meeting 11

5 November 2018 - Paris: ESNII Executive Board 11

28 November 2018 - Paris: SNETP Joint Governing Board & Executive Committee

10-11 December 2018 - Hannover: NUGENIA Executive Committee 50

==> All events on [SNETP online calendar](#)

NEWS FROM SNETP PILLARS

HTR 2018 Conference outcomes

HTR 2018 conference took place on 10-12 October 2018 in Warsaw, Poland. Since 2002, the International Conferences on High Temperature Reactor Technology have aimed to accelerate research and development on High-Temperature Gas Reactor (HTGR) and heat application technologies. After Weihai (2014) and Las Vegas (2016), the 2018 conference was the opportunity to draw a link with the Polish Nuclear Programme and European initiatives such as GEMINI+, a EU funded (H2020 Euratom Programme) project aiming to prove the industrial feasibility of nuclear high temperature cogeneration with a potential demonstration site in Poland.

High-level keynote speakers such as W.D. Mackwood (NEA/OECD), M. Goff (White House Advisor), R. Arnold (BEIS/UK) and Polish Energy Minister J. Sobolewski, attended the conference and shared their impressions on the last developments of HTGR worldwide.

This year's session hosted over 200 participants from 20 different countries. Non-European delegates from Australia, China, Japan, Jordan, USA, South Africa, Republic of Korea attended the event. The participation of Asian participants (+50%), Chinese in particular was quite impressive, but it remained consistent with the fact that China is now the world's largest nuclear market.

186 abstracts and 140 papers have been submitted enabling attendees to obtain the latest results and get insight on new orientations and perspectives.



Figure 1: Keynote speakers exchanging at HTR 2018

==> The last issue of the NC2I newsletter is also available [here](#).

NUGENIA meets with Hungarian Nuclear R&D Stakeholders

At the occasion of its 49th meeting in Budapest, the NUGENIA Executive met with the Hungarian nuclear R&D stakeholders. This has now become a regular practice of the ExCom at each of its meeting since February 2017. The session was the sixth one of its kind following similar meetings in Spain, Prague, Manchester, Paris and Helsinki.

Seven comprehensive presentations were delivered by guest speakers from the State Secretary, Prime Minister's office, MTA EK, Bay Zoltan, NUBIKI, MVM Paks NPP Ltd, BME Institute of Nuclear Techniques and PURAM Public Limited Company for Radioactive Waste Management. The meeting was an opportunity for the NUGENIA ExCom Members to comprehend the Hungarian nuclear R&D priorities with regards to the local needs.

As it was presented by the Ministry, the nuclear situation in Hungary is characterised by the Paks project which foresees the construction of two new VVER 1200 reactors and the life extension of the four reactors currently in operation in Hungary. The construction is expected to begin in 2020 but the project already passed several steps to get to where it is now:

- It realised an environmental impact assessment to inform and exchange with border countries in 2014;
- It conducted an evaluation of man-made hazards enabling the site licensing in March 2017;
- It led continuous discussions with the Hungarian Nuclear Safety Authority to make the project in line with the Hungarian safety requirements;
- It maintained a permanent dialogue at EU level to make the project compliant with the Euratom Treaty and EU competition law.

To accompany this new build, the Hungarian stakeholders unveiled their related research priorities such as on spent fuel management, corrosion of the fuel storage tubes, ageing management and more generally safety. They also highlighted their involvement in a high number of EU-funded projects on various themes enabling them to build on the experience of international partners. They also agreed on the need to make the nuclear sector as a whole more attractive to early career scientists as well as on the necessity to innovate more.

Following the seven presentations, MTA EK organised a visit to its installations to show the latest advancements on its priority research topics.

During the traditional wrap-up by the ExCom Members, several areas of future collaboration were identified, in particular the visit of foreign students to training reactors available in Budapest at the BME Institute of Nuclear Techniques. In complement, a questionnaire was also sent to the stakeholders to encourage future strengthened interactions between NUGENIA and the Hungarian organisations.



Figure 2: NUGENIA meets with the Hungarian Nuclear R&D Stakeholders

Webinar on ESNII Technologies

In the coming days, a GEN IV webinar will take place on the Advanced Lead Fast Reactor European Demonstrator project (ALFRED).

It will present an overview of ALFRED's specific design solutions, as well as the safety approach and safety characteristics of the project, touching the most important aspects of the demonstrator. Latest developments will briefly be presented too. The remaining research challenges will then be explained in the light of the present technology and further steps to be pursued will be detailed.

3 UPCOMING WEBINARS:

24 October 2018 - Safety of Gen IV Reactors - Dr. Luca Ammirabile

28 November 2018 - The Allegro Experimental Gas Cooled Fast reactor Project - Dr. Ladislav Belovsky

19 December 2018 - Russian BN 600 and BN 800 - Dr. Iiruri Ashurko

Learn more here on the recent developments in the MYRRHA project



In September, the Belgian federal government announced the extension of the funding for MYRRHA" (Multi-purpose hYbrid Research Reactor for High-tech Applications), an important result of efforts over the course of the last twenty years, at the Belgian Nuclear Research Centre, SCK•CEN. It shall be the very first prototype of a nuclear reactor driven by a particle accelerator in the world.

==> [SNETP news](#)

==> [MYRRHA website](#)

NEWS OF INTEREST

Synergies between nuclear energy and electric vehicles

The acceleration in global sales of Electric Vehicles (EVs) seems to be long-lasting. Even though they represented only 1% of total sales in 2016, the demand is growing rapidly. This is further emphasized by a set of incentives and policies supporting their use. EVs offer engineering benefits with higher efficiency, lower running costs, noise pollution reductions and CO2 emission reductions - provided they are powered from a decarbonised grid. They still face important challenges such as the range of the vehicles and the availability of charging points. Currently, EVs are charged either by "slow" charging at private homes or public charging points, while high-speed "flash charging" solutions are being researched.

The need to power EVs from a decarbonised grid may provide an opportunity for

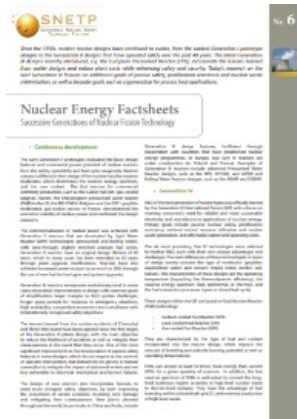
nuclear, as it will require charging the cars in the morning via flash charging points or overnight, when renewable energy sources will be less available, supporting the need for baseload generation.

From World Nuclear News (www.world-nuclear-news.org)

PUBLICATIONS

New SNETP factsheets released

Two new factsheets were released:



Factsheet n°6

Successive Generations of Fission technology

[Click here](#)



Factsheet n°10

Small Modular Reactors

[Click here](#)

==> [Click here](#) to see all the factsheets.

NC2I Vision Paper is now out!

NC2I aims to make a significant contribution to Europe's environment and economy by providing clean and competitive energy in addition to electricity by facilitating the deployment of nuclear cogeneration plants. In order to achieve this goal, NC2I has published its NC2I Vision Paper at the end of August.

==> *The document is available online on the [SNETP Website](#).*

EVENTS OF INTEREST

11th SET-Plan Conference 2018

20-21 November 2018

Vienna, Austria

The **European Strategic Energy Technology Plan (SET-Plan)** aims to accelerate the development and deployment of low-carbon technologies that will deliver affordable and sustainable clean energy to consumers. It seeks to improve new technologies using an integrated approach and bring down costs by coordinating national research efforts to accelerate delivering EU 2030 and 2050 targets.

This year's **SET-Plan Conference** will take stock of progress towards the SET-Plan priorities, following the finalization of the relevant Implementation Plans[1] and aims to identify how research and innovation efforts, at European and national level, contribute to the EU's energy transition. It will highlight the importance of making synergies and developing partnerships among public and private actors to fund and implement R&I activities that can create a real impact. The Conference will offer a versatile framework that includes plenary sessions and relevant side events to examine and discuss different views for a successful energy transition.

The 11th SET-Plan Conference, under the auspices of the Austrian Presidency of the Council of the European Union, will take place from November 20th to 21st, 2018 in the

conference venue Messe Wien in Vienna, Austria. It is co-organised by the AIT Austrian Institute of Technology on behalf of the Austrian Federal Ministry for Transport, Innovation and Technology, the Austrian Federal Ministry of Sustainable and Tourism and the European Commission.

==> *More information* [here](#).

Focus on the 5th Central & Eastern Europe Nuclear Industry Congress 2019



After the successful 4th Central & Eastern Europe Nuclear Industry Congress (Jan. 18-19, 2018| Budapest, Hungary), the **5th Central & Eastern Europe Nuclear Industry Congress 2019** will take place in Prague, Czech Republic during Jan. 28-29, 2019. It is the one of the most recognized and best established nuclear industry conference in Central & Eastern Europe, which will cover the whole industry chain.

The congress in Prague aims to bring together companies involved in all areas of the nuclear power plant life cycle to address cutting-edge issues and emerging trends which affect and even direct the nuclear industry. Over 180 professionals from governments, regulators, utilities/operators, EPCs, reactor vendors, decommissioning contractors, waste management agencies, technology & service providers and other organizations will share valuable insights into the most important aspects of new build, life extension & decommissioning projects as well as radioactive waste handling. Meanwhile, for those who are keen to find new investment opportunities or strengthen their presence in this market, our two-day event will also provide a platform to meet your future partners.

==> *More information* [here](#)

NUGENIA members are entitled to a 15% discount on registration.

Focus on... ACI's 6th Nuclear Decommissioning and Waste Management Summit



The conference will be taking place in London, UK, on the **20th & 21st February 2019**. Nuclear decommissioning and waste management is complex, it requires the collaboration of multiple stake-holders to execute it safely, it is very expensive to fund and finance and requires long term management and strategy to plan. The multiple presentations and sessions will provide guidance in this sector, elaborating on the latest updates and developments, to ensure a successful and incident free decommissioning program. The event will bring together industry leaders from across the entire value chain, to maximise the opportunities arising in the nuclear decommissioning sector, whilst also discovering the latest technologies and solutions that facilitate the storage and management of spent fuel. To receive a copy of the full conference agenda please click [here](#)

Key Topics for Discussion Include:

- Current status of decommissioning Nuclear Power Plants (NPPs) in the global context
- Comprehensive cost analysis for decommissioning of Nuclear Power Plants
- Prerequisites for the optimum decommissioning strategy
- Analysis of different strategy models and the various risks associated
- Technological developments to facilitate decommissioning of Nuclear Power Plants
- Key features to acknowledge for increasing efficiency of radioactive waste management services

- Observations on the readiness of governments to efficiently manage the storage of radioactive waste produced

Special Discount Available to NUGENIA Members: **NUGENIA members are entitled to a 15% discount on registration** - To book contact Cheryl Williams on + 44 (0) 203 141 0623 or cwilliams@acieu.net quoting the discount code: ENDMKT.

==> More information [here](#).

EPERC International Conference

1-3 April 2019

Roma, Italy

While supporting initiatives to improve the competitiveness of the European Pressure Equipment (PE) Industry for the last 30 years, the "European Pressure Equipment Research Council" (EPERC), an international Belgium-based association, has launched a new package of research projects to support innovation in PE industry.

In this framework, the association will organise the EPERC International Conference on 1-3 April 2019 in Roma, in order to enrich the participants' knowledge-base on diverse topics related to PE technologies, and exchange ideas coming both from industry and research & development organisations, academia and regulatory bodies. Specific research themes such as power and process Industries, energy, transportable, storage, boilers, heat exchangers in metallic and non-metallic materials, will be addressed. The conference will be an important forum to exchange on PE innovation needs in Europe and beyond. More than 100 papers, workshops and panel sessions are planned, as well as tutorials, a technology demonstration forum, and a student paper symposium and competition.

==> More information [here](#).

FISA - Euradwaste 2019

4-7 June 2019

Pitesti, Romania

The European Commission (EC) is co-organising the FISA 2019 and EURADWASTE '19 conferences with the Ministry of Research and Innovation of Romania and the Institute for Nuclear Research (RATEN ICN) under the auspices of the Romanian Presidency of the EU in 2019.

Gathering some 500 stakeholders, the FISA 2019 and EURADWASTE '19 conferences' objectives are:

To present progress and key achievements of some 90 projects carried out, since the previous conference edition in 2013, as part of the 7th and Horizon 2020 Euratom Research and Training Framework Programmes (FP).

To stimulate discussions on the state of play of R&D, key challenges addressed at national, European and international levels on Research and Innovation policies, synergies and partnerships benefitting research and innovation programmes, and future perspectives.

There will be many opportunities for interaction within dedicated parallel & poster sessions, and thematic workshops. The latest EC proposal for a new Framework Programme for Research and Innovation for the period 2021-27, 'Horizon Europe' and its associated 'Euratom Research and Training' programme will also be addressed.

New ANNETTE Courses



ANNETTE (Advanced Networking for Nuclear Education and Training and Transfer of Expertise) is an H2020 project coordinated by the European Nuclear Education Network (ENEN). It publishes a monthly bulletin to promote the courses offered by the

partners of the project.

The courses target individuals who are looking to start, refresh, deepen or widen their education and training in the nuclear fields. The topics covered encompass Nuclear Safety / Technology, Radiation Protection, Waste Management and Geological Disposal, Nuclear Safety Culture and Fusion. Major universities, research centres and other institutions in Europe are involved in delivering the courses.

==> *The present course programme is available [here](#).*

Applicants can fill the form at [ENEN](#) and will be contacted soon.

Possible support for covering mobility expenses can be asked to the ENEN+ project on a competitive basis at: [ENENPLUS](#), although no guarantee of acceptance of the request can be given at this stage.

More information in the issues of:

==> [September](#)

==> [October](#)



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