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WNE DAILY

NOVEMBER 29 2023 // PARIS NORD VILLEPINTE

BREAKING THE TABOO

Nuclear's firmly back on the agenda

The resounding message from every speaker at a packed opening ceremony is that nuclear energy is back. "Finally, nuclear is no longer a taboo concept," stated Agnes Pannier-Runacher, French Minister for Energy Transition, explaining its pivotal role in generating zero-carbon electricity for Europe and the world. "Nuclear power is a key effort to meet our climate obligations," she added.

"Nuclear energy is an essential part of our struggle for a carbon-free future," affirmed Thierry Breton, European Commissioner for Internal Market at the EC.

According to Pannier-Runacher, backed up by Rafael Mariano Grossi, Director General of the International Atomic Energy Agency, talk of nuclear energy has been a taboo subject at previous COPs but it will be on the agenda for the first time in Dubai in the coming days.

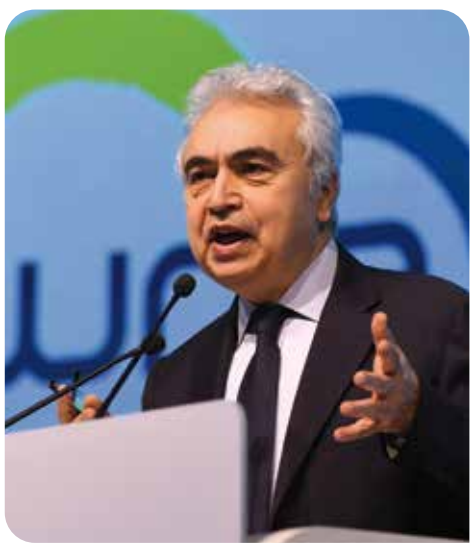
"[At COP28] all the countries that are using nuclear energy are going to proudly stand together and say that for them nuclear is part of that [climate change] provision," said Grossi. "Without it we won't be able to reach our climate commitments," noted Commissioner Breton.

Dr Fatih Birol, Executive Director, International Energy Agency, reminded the audience that at WNE two years ago he had predicted nuclear power might be ready for a return. "Today, I can assure you that nuclear is making a strong comeback."

This new momentum is because countries that had turned away from nuclear are changing their minds for reasons of energy security, its advantage in generating electricity without emissions and its price competitiveness, said Birol.

SUSTAINABLE FUTURE

He called for "genuine government support" to ensure the investment community can back new-build nuclear projects, adding that existing plants should increase their capacity as well as have their lifetimes extended. "Electricity is the future" for key areas like transportation, households, and many industries, explained Birol, and "together with renewables, solar, wind and others, nuclear power will pave the way for a better sustainable future."



Dr Fatih Birol, Executive Director, International Energy Agency (above) and Agnes Pannier-Runacher, French Minister for Energy Transition speaking at the opening ceremony

DAY TWO
Main Stage Programme

09:30-9:45
Keynote with Xavier Ursat, President of GIFEN, French Nuclear Industry Association

09:45-11:00
Advancing Nuclear Industry through Territorial Development and Digitalization

11:15-12:00
Engaged to deliver the nuclear energy the world needs. *Organised by Framatome*

12:15-13:00
Nuclear industry and regulators: ensuring confidence in the supply chain through international collaboration

14:00-14:45
How to deliver Nuclear New Build programmes successfully? Focus on the construction phase *Organised by Assystem*

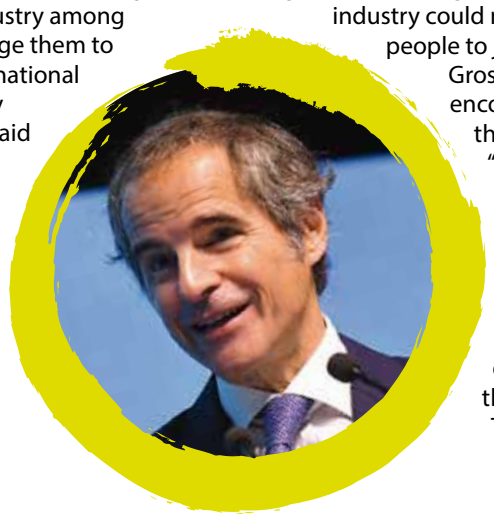
15:00-15:45
Security of Supply and Advanced Reactors in the Current Challenging Environment. *Organised by Westinghouse*

16:15-17:30
Multiplying Benefits for Society: Nuclear for Healthcare, Hydrogen and Heat Production

BETTER COMMUNICATION IS VITAL TO ATTRACT NEW TALENT–GROSSI

A major communications initiative is needed to banish the poor image of the nuclear industry among youngsters and encourage them to join the sector, the International Atomic Energy Authority (IAEA) director-general said at WNE yesterday.

"Communication is essential," said Rafael Mariano Grossi. "Nobody wants to work in a dying sector that's not interesting. For the past 20 years, there has been constant communication that nuclear is bad, dangerous and dying." Against that background negativity, the industry could not expect young people to join it.



Grossi said he was encouraged to see that this trend is changing, "but this is going to take some time. We need to learn to communicate with a younger generation that gets its information in a different way [than in the past]."

The IAEA is putting in particular effort on networking with local towns and municipalities already the sites of nuclear facilities; those communities know the value of the nuclear sector from an economic perspective.

Grossi added: "We do have a particular problem when it comes to gender. My observation is that, when it comes to gender, there is a lot of discourse, but very little action." With this in mind, the IAEA has created a channel that helps to finance the nuclear careers of 200 women, but "It should be 2,000." He appealed to his audience for help in developing this channel.

● See 'Connect to Nuclear', p5

*in*brief

OPENING DAY TRIUMPH

The crowds who packed exhibition Hall 7 yesterday may be a record for Day 1 – official attendance figures were not yet available – but certainly reaffirm the buoyancy within the industry. "We could not have asked for a better, bigger or more enthusiastic Day 1," said Xavier Ursat, President of GIFEN. "This is a real demonstration of what our speakers were saying at the opening ceremony – nuclear energy has a bright future."

Xavier Ursat keynote, 09:30

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What they said...
News from the Main Stage events

NUCLEAR PROJECTS: GETTING READY FOR SERIAL PRODUCTION

How can you scale up the production of new nuclear installations and what can we learn from the past?

That was the question asked in a panel discussion moderated by Paul Howarth, CEO of the National Nuclear Laboratory and chair of AIRTO.

The panel comprised Diane Cameron, Head of the Nuclear Technology Development and Economics Division; Ken Hartwick, President and CEO, Ontario Power Generation; Tai Jiang, President of China Nuclear Power Engineering; Alain Tranzer, General Head of Industrial Quality and Nuclear Skills, EDF; and Mohamed Al Braiki, Strategy Director, ENEC.

Diane Cameron started by saying that we are at an important moment in time with the focus on climate change.

"Next week, the COP28 conference may see a commitment to trebling nuclear capacity by 2050," Diane said. "But we have to address the elephant in the room – project delays and overrunning costs.

"We must put these in perspective. These are not unique to the nuclear industry and happen with many large infrastructure projects.

"We need to look at our nuclear success stories for inspiration. For example, the UAE delivered four sites in 10 years and in Ontario they built 18 in 10 years, as did South Korea. So what were they doing right?" she said.

Ken Hartwick said make sure all reactors are designed to be exactly the same, which will help with manufacturing and operations."

Mohamed Al Braiki said that when the UAE gets its four reactors up and running they will supply 25% of the UAE's electricity. "They will also remove 22.4 million tonnes of CO_2, which is the equivalent of taking 4.2 million cars off the road," he said.

"Strong government support is essential. Our first reactor took 7.9 years to complete, but the third was built 39% faster."

Diane Cameron, right, started by saying that we are at an important moment in time with the focus on climate change

NUCLEAR RENAISSANCE

Europe's nuclear renaissance is getting under way but facing challenges, partly caused by the long slump in developing major nuclear projects in the continent in recent decades.

This year, two new nuclear power stations, in Finland and Slovakia, have come on-line: "This hasn't often happened in recent years," admitted Massimo Garribba, deputy director-general responsible for coordination of Euratom policies in the European Commission's Directorate-General Energy.

Luc Rémont, chairman and CEO at EDF, agreed, noting that there had been a shortage of work in building new nuclear facilities over the past 20 years. "There were tons of studies, but very few projects," he said. Industrial capacity had been lost over that period. What was now needed was industrialisation, scaling and reproducibility of work "without reinventing the wheel". The executives were speaking as part of the EDF panel, 'Enhancing energy independence by leading the European Nuclear Renaissance'.

FINDING THE FUEL

It's one thing producing new small, advanced and large reactors. But you will still need fuel to power them and also handle their nuclear waste. That was the theme of a discussion panel at the show held on Tuesday.

Jacques Peythieu, Senior Executive Vice President, Customer Strategy, at Orano, said that the industry will need to invest around €100bn by 2050 if the nuclear industry is to triple in size. He said we will also need a stable framework for the supply of uranium and find new sources as well. The long-term storage needs of spent fuel rods will also need to be looked at.

As nuclear power will remain part of the European energy mix, member states are looking into final disposal options.

Christopher Eckerburg, Vice President, Nuclear Decommissioning, Vattenfall, said Sweden is already ahead of the game.

SAMA BILBAO Y LEÓN: 'CARRYING THE TORCH'

"I would like to celebrate the efforts of several generations of young nuclear professionals that have participated in many COPs from the very beginning," said Sama Bilbao y León, Director General of the World Nuclear Association, in her keynote address, recognising how they have carried the nuclear "torch" enabling the industry's elevated recognition at COP28.

Describing this visibility as a "turning point" for how nuclear is viewed, she added: "Not only can we challenge the preconceptions that many people have about nuclear energy, but we also need to lay the groundwork to make sure that nuclear energy is perceived in a manner that is much more positive and inclusive in the context of climate change."

Bilbao y León noted that rather than being back, as characterised in the opening ceremony, nuclear never went away. "I argue we've been here all along, a little in the background, chugging along, producing 24/7, carbon-free, affordable energy and nobody really noticed," she said.

Today's re-evaluation of energy policies points to how the "fragility of the fossil fuel supply chain" with "skyrocketing" energy prices and countries "struggling to secure sufficient supply" has delivered a "wake-up call for us in the Global North", said Bilbao y León.

"We have got a very close glimpse of what it is like to struggle for energy as many of our colleagues do in the Global South," she said, noting there are over 100 million people with zero access to reliable, affordable, and clean energy in the world.

"This road to a net zero emissions economy cannot be a road that leaves people behind," said Bilbao y León, which is a major challenge.

"The good news is that nuclear energy can and needs to play a key role here," she added. "The other good news is that we can support renewable energy sources by providing this essential dispatchable baseload electricity that is going to overcome their intermittency."

Sama Bilbao y León, Director General of the World Nuclear Association, is delighted the nuclear industry is making a strong return to COP28

INTERVIEW

ASSYSTEM PUTS ITS EXPERIENCE TO WORK FOR ENERGY TRANSITION

Since its inception in 1966, Assystem has contributed to strengthening the nuclear sector as an essential component of the energy mix by supporting construction of the French nuclear fleet to ensure a safe and sustainable energy transition.

It supports nuclear projects worldwide throughout their life cycle and ranks among the top three nuclear engineering companies globally.

Assystem's Tribune will showcase the company's commitment to helping governments and technology providers build and deliver their nuclear programmes on time and on budget.

"As a historic platinum sponsor of WNE, Assystem will once again show how its engineering, project management and digital services will help expand nuclear energy around the world in a safe, efficient and competitive way to combat climate change and its environmental impacts", says Stéphane Aubarbier, Assystem deputy chief executive.

He told *WNE Daily* this year's theme, 'Connecting nuclear power to the world: meeting energy and environmental challenges', perfectly resonates with the group's commitment to accelerating energy transition globally.

"We haven't been facing problems of attracting people to the nuclear sector in recent years," he said. "It's easier to hook young people to work on projects dealing with global warming.

"It is important for the nuclear sector to attract new talent through energy transition. "

The roadmap of the International Energy Agency (IEA) towards carbon neutrality by 2050 indicates that nuclear energy production is set to double.

"The nuclear sector is booming while the fight against global warming is getting unanimous awareness around the world," said Aubarbier. "The energy transition in which the world is engaged cannot be achieved without increasing the use of low-carbon electricity to reduce CO_2 emissions.

"Nuclear power is considered a strategic pillar of the electricity mix of many countries to accelerate their energy transition."

Assystem has participated in the design, construction and commissioning of nuclear power plants in France, the UK, Turkey, Finland, China and the UAE.

The group is poised to support the EPR2 project in France and other new nuclear programmes internationally.

"We therefore have the legitimacy particularly in the construction phase," said Aubarbier, "and it is important for us to highlight this aspect during WNE."

In June 2023, Assystem set up the Nuclear Engineering Alliance (NUCEAL) in partnership with IDOM and VUJE to support the development of EDF projects within the European Union. This new alliance brings together companies specialised in nuclear engineering to provide the required skills to accelerate the development of nuclear energy in the EU.

> *Assystem will once again show how its engineering, project management and digital services will help expand nuclear energy around the world in a safe, efficient and competitive way to combat climate change and its environmental impacts*

Stéphane Aubarbier
Assystem Deputy Chief Executive

How to deliver Nuclear New Build programmes successfully? Assystem Panel, 14:00-14:45 today, Main Stage.

WELCOME TO WNE 2023...

Agnés Pannier-Runacher (right) French Minister for Energy Transition, receives a VIP welcome from WNE President Sylvie Bermann, and GIFEN President Xavier Ursat

Cyrille Molina, Oakridge President and CEO (centre) with Sander De Groot , CTO, and Kiki Lauwers, CEO of Thorizon

Oakridge extends global footprint

French nuclear consultancy Oakridge SAS [D018] was busy signing MoUs at WNE yesterday that will spread its business interests further afield – to Japan, Poland and Switzerland.

It's part of Oakridge's strategy of global diversification, said Cyrille Molina, Oakridge President and CEO, adding: "I can tell you it works." His partners already include companies in Czech Republic, UK, Sweden, South Korea and others.

In Japan, Oakridge is partnering with Japan NUS Co Ltd (Janus), a nuclear safety specialist working mainly for the Japanese regulator and nuclear operators in Japan.

The agreement with Polish company MCKB positions the partners for projects in Poland's domestic nuclear sector, which is forecast to grow over the next decade.

"We want to be part of this," said Molina. "Since we are a 100% nuclear player, we know the rules."

The French-Swiss partnership links Oakridge with Thorizon, a start-up developing a new type of molten salt reactor (MSR). It's a new field of activity for Oakridge; Molina said his company will be in charge of nuclear safety, its area of expertise.

Molina and Sander de Groot, CTO and co-founder of Thorizon, present a workshop titled 'Safety approach at the conceptual phase of an SMR: A European molten salt reactor case' tomorrow at 11:00

*in*brief

ANALYTICS AND EXPERTISE FROM EUROFINS EICHROM

WNE newcomer Eurofins Eichrom Radioactivity Laboratory [B060] analyses more than 70,000 samples a year from companies around the world for radioactivity, chemical composition and asbestos. The lab counts every major nuclear operator, including ASN, Framatome, Andra and CEA, among its clients. Its team members are at the show to explain how their analytical expertise contributes towards environmental monitoring, dismantling of nuclear facilities and much more.

SECURISPOT COULD BE AN ON-SITE LIFE-SAVER

New to WNE this year, Fastpoint [E021] is highlighting an innovative tech solution, SecuriSpot. The device, designed to spot risks to personal safety before damage is done, integrates cutting edge tech (including AI and 3D imaging) to optimise on site safety. SecuriSpot triggers real time alerts via SMS (and other systems) straight to those who need them the fastest, saving lives and ensuring site-wide safety.

GERB INSULATES AGAINST VIBRATION AND SEISMIC WAVES

Gerb SAS is at L060 sharing its expertise and its anti-vibration devices, spring boxes, Visco and ADA shock absorbers. The company specialises in insulating machines, industrial equipment and buildings against vibration and seismic interference.

Aruna casts its net worldwide

In the absence of a domestic nuclear market currently, Indian castings manufacturer Aruna Alloy Steels (J004) is building its reputation for faultless steel and alloy castings in export markets around the world.

Managing director Arun Arunachalam said the company manufacturers 5000 tonnes of high-quality steel castings in carbon steel, alloy steel, copper alloy, stainless steel and nickel alloy per year which it supplies to leading valve manufacturers.

At WNE, the company is also promoting the ScopiQ quality management system, which is designed to resolve one of the major challenges that manufacturing industries face today: quality management.

CEO Balasundaram M says ScopiQ helps maintain quality-related aspects seamlessly through the production workflow, from renewal of certification to monitoring indices and metrics. Most importantly, mandated audits happen on time, eliminating last minute hassles that hamper efficiency.

Aruna CEO Arun Arunachalam at the show

INTERVIEW

FRAMATOME BACKS INNOVATION AS DRIVER OF SUCCESS

In the space of a mere 10 years, WNE has become the "reference event" for the global civil nuclear industry – for Framatome chief executive Bernard Fontana, the "must-attend trade show" for all actors, big and small.

He said the theme of this year's exhibition, 'Connecting nuclear to the world: rising to the energy and environmental challenges', is "especially apt".

"The global and unprecedented impacts of climate change, combined with the current international energy context, are defining issues of our time."

Sponsoring WNE once again – "playing our part in ensuring that the nuclear community as a whole has a platform to meet, discuss and debate" – is a matter of pride for Framatome as an international leader in nuclear energy.

Fontana is a firm believer in the value of the face-to-face interaction and networking afforded by trade show such as WNE, plus it's a "fantastic opportunity" for his company to showcase its comprehensive offering with demos and workshops.

"Innovation is truly part of our DNA at Framatome and I am proud to see we have six nominees to the WNE Innovation Awards. Two of our high-performing employees are serving as mentors in the WNE Startup Village, a wonderful new initiative by WNE aimed at sourcing ideas and enabling companies to connect with new players."

"There is no doubt that innovation is key to the vitality of our industry."

"Also key to the vitality of our industry and its long-term success are our people," he added. "The WNE Connect to Nuclear programme is a great forum to connect with individuals interested in working in our industry."

Framatome alone will hire more than 2,000 people in 2023, he said.

A featured event at WNE is today's Framatome-organised panel discussion entitled 'Engaged to deliver the nuclear energy the world needs'.

Nuclear provides a clean, reliable and safe source of energy, said Fontana. Recent data suggests that nuclear capacity needs to at least triple by 2050 to meet climate targets, and actions are being taken around the world to deliver the required capacities.

"The success of the ambitious objectives for lifetime extension of the existing fleet, as well as for newbuild projects, relies on a strong and sustainable supply chain guaranteeing reliability and sovereignty, innovations and optimised collaboration."

Members of Framatome's panel will share their commitments to reaching the target, and talk about the approach they will use to rise to the challenge.

Said Fontana: "At Framatome we are ramping up and committed to playing our part in delivering the nuclear energy the world needs. But we cannot do it alone; the entire industry needs to be engaged!"

Bernard Fontana
Framatome Chief Executive

Framatome panel, Main Stage, at 11.15am

> *"Innovation is key to the vitality of our industry. Also key to the vitality of our industry and its long-term success are our people. The WNE Connect to Nuclear programme is a great forum to connect with individuals interested in working in our industry"*

It's a small world at CEA

CEA takes a 'fun' look at the widespread interest in SMRs and its own R&D – with a Lego model of a project site. It's kid's stuff! Take a little look yourself, at D114

UMN'S SKILLS ACTION PLAN

NUCLEAR IMAGE NEEDS BURNISHING TO ATTRACT STUDENTS TO COURSES

The University of Nuclear Professions (UMN) submitted an Action Plan on 'Skills' in the sector to the French government last June. It contains seven levers and 30 concrete actions to attract, train and recruit 100,000 new talents during the next decade.

The levers focus on the attractiveness of the nuclear industry, the expansion of sourcing (feminisation, inclusion, retraining, seniors, foreign students etc), youth orientation towards scientific and technical courses and work-study programmes.

UMN chair Hélène Badia urged industry partners, training institutions and recruitment agencies to work together to create more impact. "The momentum has started; it is by joining forces that we will be able to meet the challenge of recruiting in the sector."

The study on the needs of the nuclear industry, carried out as part of the Action Plan, identified 84 main professions, including 20 as sensitive, ranging from operational professions (boilermaker, welder, radiation protection technician, site manager, draughtsman etc) to engineering professions (project managers etc). It also included design engineering, electrical and mechanical roles.

> *"The momentum has started; it is by joining forces that we will be able to meet the challenge of recruiting in the sector*
> *Hélène Badia*

It underlines that alongside creating new training courses, measures need to be taken to make the industry more attractive to more people, thus filling the training courses.

Set up in 2021, the UMN is not a physical campus like classic universities. It has a national approach to boost and coordinate actions in the regions of France, through campuses or associations, and enable the sector to recruit a skilled workforce to sustain its future.

It has designed a Nuclear Passport in collaboration with the French Ministry of Education and Youth. This system integrates nuclear education modules into cross-disciplinary technical training courses from Youth Training-NVQ Level 1,2 (CAP) to A-Level +5 (bac+5), leading to jobs in demand in the nuclear industry.

It aims to arouse students' interest in nuclear while developing their skills with a view to joining the sector.

From the start of the academic year 2023, 50 institutions including vocational high schools, IUTs and engineering schools have offered the Nuclear Passport, reaching more than 2,000 students. This scheme is also deployed in UIMM training centres throughout France to reach students on work-study programmes, as well as people in retraining.

In addition, the website for the general public, monavenirdanslenucleaire.fr, is being enriched. It now provides a list of jobs in the nuclear sector – more than 4,500 – as well as work-study and internship offers.

Since 2022, a monthly payment of 600 euros has been available to 200 students a year under a nuclear scholarship financed by France Relance.

A KEY PLAYER

The UMN was founded in April 2021 with the support of 12 founding members : GIFEN, EDF, CEA, Framatome, Orano, Andra, UIMM, UFE, Nuclear Valley, France industrie and Pôle Emploi), industrialists, training and employment actors with the support of several ministries. It works in close collaboration with companies and core players of the industry.

MAKE IT FUN!

TURN LEARNING INTO A GAME FOR TOP RESULTS

It's long been recognised that people learn best when they enjoy the activity: when learning is fun.

Learning is a game, say the presenters of a WNE workshop at 13:00 tomorrow entitled 'Gamifying your training programmes'. The technique is simply to apply game mechanisms in training situations to transmit knowledge or skills.

What makes gamification effective? It enhances learning retention through a combination of factors, starting with developing cooperation, group cohesion and teamwork, based on the notion of "having fun".

It also stimulates participant involvement through reward systems, and improves learning by making games neuro-ergonomic through trial and error.

The workshop is designed to highlight advantages of this method, to go through phases of creating an 'edutainment' game and offer practical collaborative experience of the design phase.

"There isn't just one solution for transforming an educational objective into a gamification workshop," say the presenters, "it's also one of the strengths of this method that it offers designers so many different possibilities."

WNE workshop, 13:00 tomorrow: 'Gamifying your training programmes'.

SHAPING A NEW INCLUSIVE WORKFORCE LANDSCAPE

Two international programmes to encourage more women to enter the nuclear field, and to support them when they do, have been launched by the International Atomic Energy Agency (IAEA).

Fittingly, they've been named after two of the world's greatest scientists, Marie Skłodowska-Curie and Lise Meitner.

"Gender diversity is beneficial for innovation in any field and the nuclear field is no exception," says Maria Naydenova, Project Manager (MSCFP/LMP) at the IAEA.

The Marie Sklodowska-Curie Fellowship Programme (MSCFP) offers scholarships to master's degree students, while the Lise Meitner Programme is aimed at retaining early- and mid-career women and supporting their nuclear career development.

MSCFP aims to inspire and encourage young women to study and pursue a career in the nuclear field. It provides scholarships for master's programmes and an opportunity for an internship facilitated by the IAEA.

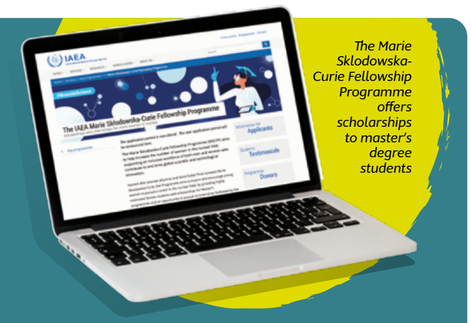
It is open to all female students from IAEA member states and awards up to €20,000 for tuition fees and up to €20,000 for living costs during the student's master's programme. MSCFP interns also receive a stipend of up to €1,000 per month for a maximum of 12 months.

The fields of study covered by this programme include nuclear engineering, nuclear physics and chemistry, nuclear medicine, isotopic techniques, radiation biology, nuclear safety, nuclear security, non-proliferation and nuclear law.

Since its launch in 2020, the MSCFP has received more than 2,200 applications and has selected "a strong and diverse pool of 560 female students", representing 121 nationalities and studying in 72 countries.

The Lise Meitner Programme includes professional visits to nuclear facilities, with opportunities for early- and mid-career women to enhance their technical and soft skills. Throughout the programme, they are encouraged to network with peers, with role models and mentors.

Participants are selected depending on the focus of the planned visits. They must be from IAEA member states, hold a relevant degree, and have between three and 10 years of relevant work experience in the nuclear field.



The Marie Sklodowska-Curie Fellowship Programme offers scholarships to master's degree students

ATTRACTING APPLICANTS

The IAEA has a well-structured outreach policy to raise awareness and attract qualified and eligible applicants to both programmes. It uses official channels (reaching more than 400 universities worldwide), social media, and the MSCFP student and alumnae LinkedIn group. IAEA collaborating centres host internships and facilitate professional networking. The agency works closely with companies, laboratories, industries, organisations and member states to provide more opportunities for hands-on experience for MSCFP graduates. Internships may lead to job opportunities or research positions.

START-UP SPONSORS

SNETP Sustainable Nuclear Energy Technology Platform

SUPPORTING PARTNERS

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SNETP THROWS WEIGHT BEHIND STARTUP SCHEME

SNETP, the European Union's Sustainable Nuclear Energy Technology Platform, is sponsoring the WNE's new WNE Startup Program. The initiative is designed to provide a package of support for innovative young businesses in Europe's civil nuclear industry and help bring exciting, safe technologies to market quickly.

SNETP's sponsorship is a coup for the programme, highlighting its potential to bring value to the industry. SNETP was established in 2007 to support and promote safe, reliable operation of Generation II, III and IV civil nuclear systems. Now, it is an international non-profit association (INPA) pursuing networking and scientific goals in the field.

The Startup Program fits well with the organisation's goals, as Abderrahim Al Mazouzi, SNETP, General Secretariat, explained: "SNETP is at the forefront of work to advance efficient, safe developments in nuclear. And with a membership that includes industry, R&D organisations, academic institutions, safety bodies and NGOs we can foster meaningful collaborations and partnerships. We're excited to play our part in nurturing fresh ideas through the programme."

The WNE Startup Program has identified 20 of the industry's smartest new players, who will showcase their innovations in the WNE Startup Village throughout WNE 2023. They will be in line to win the 'Coup de Coeur' people's choice prize, awarded via online vote. All 20 will benefit from the profile that a spot at the show brings, the opportunities to network and find new business partners in the world's nuclear community, and from mentoring by industry experts to fine-tune their project.

Abderrahim Al Mazouzi is one of those mentors. What is he looking forward to in the WNE Startup Village? He told us: "I want to be surprised. I've worked in the sector for over 30 years and innovation is part of the daily job, but I've seen how hard it can be for long-established businesses to be truly ground-breaking.

"I hope to see something completely new and that SNETP can help to foster collaborations, validate the concept and shorten what can often be a long and winding road to market."

THE INDUSTRIALIST'S VIEW

Bernard Salha

Director of R&D at EDF, President of GIFEN's Innovation and R&D Commission

"We have such an interesting development in start-ups here at WNE. In France, until now most of our nuclear development has been done by big companies or the government. This is the first time real start-ups are being given such space. Their innovation and ambition are significant. It's quite interesting for me to understand what drives them; how they can succeed or fail.

"Although I am head of R&D for EDF's nuclear division, the scope of my role is much greater and covers such things as sustainable energy and renewables. This cross-sector knowledge can be valuable to start-ups. I can help them think across different industries. Nuclear projects are very sensitive and run over long periods of time, and so are other industries. They're different to the digital world, for example.

"What does success look like? With mentoring, which I have done before, it is to be able to give advice that will help shape their future, their direction and ambitions. And it's not a one-way street: I also get something out of the mentoring relationship."

THE ENTREPRENEUR'S VIEW

Gilles Babinet

Digital Entrepreneur, Co-President of the Conseil National du Numérique

"I've built several companies and even though none were in the nuclear industry, I don't feel it's a problem since most of the companies in the list are first and foremost innovative companies with little directly related to the nuclear process. It's interesting because it shows how IT and IA technologies are invading everything.

"When you are a young company with a young entrepreneur, or someone who has little expertise in management, you can easily make mistakes. I can advise on these initial phases. I can also help to define how best technology can be used, with tips on processes, managerial discipline etc.

"When you mentor companies, the best reward is to bump into a successful CEO a few years later who tells you: 'You gave me some really insightful advice back then.' It's happened to me a few times and it made my day.

"When you mentor CEOs on a longer term, you enjoy seeing the advice you give is taken into account. A CEO faces 1,000 tasks a day. It's important that they pick at least eight of the most important 10."

THE VENTURE CAPITALIST VIEW

Raphaele Leyendecker

Managing Director, Techstars Sustainability Paris Accelerator

"As MD of Techstars Sustainability Paris, I am used to mentoring companies in the sustainability field. Working with early-stage founders is inspiring.

I like to help them accelerate their journey by focusing on what matters most. I hope my network and knowledge of the early-stage venture capital (VC) industry can help them bridge the gap between R&D and fundraising.

"The nuclear space, especially in France and Europe, is a thriving ecosystem. With a recent interest from the VC industry in Deeptech and infrastructure startups, I think nuclear startups have a big chance to take a major role in the fight against climate change, especially when it comes to smaller plants.

"As a mentor, you know you have succeeded when founders keep calling you and asking you for a favour. Working with early-stage companies means that we can experience together the highs and lows of what it takes to build a company from scratch. That means building a long-lasting relationship for 5-8 years to come at least."

Read all about the 20 companies you can choose to vote for in our Coup de Coeur competition

STARTUP SUMMARIES

1 AMIRAL TECHNOLOGIES
Blind failure prediction for complex equipment

Amiral has developed a machine-learning method to predict equipment failure without needing historical failure data. It uses healthy data to establish what is normal and identify anomalies quickly to improve equipment uptime and performance and maximise profitability.

2 ASK FOR THE MOON
Knowledge drives performance

Ask for the moon is a platform that connects a company's employees with the knowledge they need to work effectively. It uses AI to match real-time queries with the right answers, or the colleagues best equipped to provide them, validating and recognising the best responses.

3 BLUE CAPSULE TECHNOLOGY
Low-carbon heat and power for industry

Blue Capsule has developed an innovative, small modular reacto r (SMR) to supply industrial-grade heat and power. One module can provide 150MWth of industrial heat at 700°C. It can also produce electricity and high-temperature steam.

4 BROLZ
Your industry in a smartphone

BROLZ has created a new kind of tracking app to scan individual items such as temporary storage, fire loads, low level waste, mobile equipment, hot and cold containers, filtration units, FME cabinets, tools, scaffolding etc – and manage these assets actively or passively.

5 CAPSA SOLUTIONS
Hazardous waste management innovation

Capsa's transportation and long-term storage solutions take time and cost out of the decommissioning cycle. It develops waste containers that can be optimised to suit a particular environment and type of contents, and then standardised for volume production.

6 DUAL FLUID
Reinventing nuclear

Dual Fluid is developing technology to deliver emissions-free energy at lowest cost, turning nuclear waste into electricity efficiently and safely. The Dual Fluid reactor uses two circulating fluids in place of fuel rods for better performance. The company plans to create a prototype this decade.

7 FASTPOINT
Technology, information and internet

Fastpoint offers manufacturers and site managers integrated active safety solutions, to detect risks and prevent accidents. Its solution SecuriSHOCK is tailor-made to detect collision risks when dealing with sensitive or dangerous material that requires a handling process without shocks.

8 HEXANA
Sustainable production of carbon-free energy

HEXANA is a CEA spin-off developing an energy system that combines a sodium-cooled modular fast neutron reactor and thermal storage. The company aims to build a credible, competitively priced low-carbon solution to move energy production away from fossil fuels and provide flexible electricity production.

9 IUMTEK
Real-time analytics

Iumtek is a cleantech startup, partnered in France with the CEA DEN, and developing efficient in situ laser-induced breakdown spectroscopy (LIBS) elementary chemical analysers to define the composition of materials. Its TX 2000 analyser addresses the challenges of nuclear power by making real-time analysis a reality.

10 JIMMY
Provider of decarbonised industrial heat

Jimmy designs and operates thermal generators to provide cheaper decarbonised heat. The Jimmy generator reaches a high temperature (its core is at 750°C) and is proven safe and effective in industrial applications. The Gen IV International Forum has identified it as a promising technology.

11 KALMAN
Robotics as a service for industrial inspection

KALMAN provides robotics-as-a-service, with fully integrated robotics solutions that are flexible and easy to deploy. Kalman engineers visit sites to identify unique challenges and custom-design robots. The company also offers staff training, ongoing maintenance and consulting services.

12 KÄRNFULL
A brighter future for all

Kärnfull is championing the scale-up of nuclear power to drive the Nordic region's transition to fossil-free electrification. It is developing a small modular reactor (SMR) and working to build new nuclear plants through cutting-edge project management, financing and operational strategies.

13 NDB INC
Never-recharge battery

NDB is one of the earliest adopters and developers of atomic voltaic cells for mid- and high-power applications. Recycling nuclear waste, NDB extracts radioisotopes to transform radioactive decay energy into usable energy, and envisages a tiny, modular, cost-effective concept with wide-ranging applications.

14 RENAISSANCE FUSION
De-coupling energy from fuel and emissions

Renaissance Fusion builds stellarators – efficient, stable reactors that produce controlled nuclear fusion. The company uses high temperature superconducting magnets and liquid metal shields to simplify the design of stellarators, aiming to cut cost and reduce the time needed to bring the first power plant into service.

15 SARCOMERE DYNAMICS
Replicating human functionality

Sarcomere is developing a near-human robotic hand. It uses proprietary actuator technology to give customers a compact, lightweight, strong and highly dexterous robotic hand to automate tasks too complex for conventional robotics. The first version will be available by late 2024.

16 SENSEMORE
Healthy machines, sustainable business

Sensemore uses new technologies including AI-backed tools to optimise machinery maintenance programmes. This improves equipment performance, reduces downtime and cuts maintenance costs. By predicting and averting machinery malfunctions, companies can significantly reduce their carbon emissions.

17 STEADY ENERGY
Revolutionising the energy landscape for a carbon-free future

Steady Energy has developed a nuclear reactor that operates at lower temperatures and pressures than traditional nuclear reactors, to produce safe, emissions-free energy in compact, secure plants that can be located near urban areas. Its goal is to scale up to industrial production by 2030.

18 STELLARIA
Affordable fast-neutron technology

Stellaria is making fast-neutron technology affordable. The company is revisiting proven molten salt technology to develop energy storage, with a solution that is equal to millions of tonnes of coal, with a density c70 million times higher than any lithium-ion equivalent.

19 TECHNOCARBON
Building the future

Technocarbon is developing high-performance, low-carbon alternatives to steel and concrete. Its composite material is lighter and more durable than steel and concrete, has more stress resistance than concrete and aluminium, and takes less energy to produce.

20 THORIZON
Durable power for people. Fast

Thorizon is developing the thorium molten salt reactor, a radioactive waste burner to generate approximately 250MW of thermal power, delivered in the form of 550°C clean steam for industrial or domestic use. Thorizen plans to build its first reactor plant within 10 years.

VOTE FOR YOUR START-UP "COUP DE COEUR" HERE

WNE 2023 in numbers

729 exhibitors

20,000 participants

76 represented countries

1,000 decision makers

inbrief

ADVANCED MECHANICS AND RESPONSIBLE ENGINEERING

A mission-driven company with an emphasis on responsible engineering, Phimeca [L020/19, J019] specialises in digital simulation, uncertainty management and data sciences specifically to evaluate reliability and resilience. The company supports clients from design through to operation and maintenance of its systems, which have an emphasis on innovation.

HAND IT TO SARCOMERE DYNAMICS...

Sarcomere Dynamics (H036), a Canadian start-up, has developed the ARO robotic system, a dextrous and sophisticated near-human robotic hand to perform intricate tasks easily and precisely. With its patent-pending actuator technology, the company says its mission is to enhance safety and efficiency through the design and building of compact robotics.

CLOUD-BASED REPORTING ON AND OFFLINE

Siteflow [D135] is at WNE with what it says is the first cloud-based solution designed specifically to manage nuclear field operations. This allows field workers to have real time remote access to instructions or information via mobile apps even without Internet access. Totally eliminating the paper trail for repair, maintenance, manufacturing and dismantling, the platform ensures fully compliant and traceable reporting faster, cheaper and more efficiently.

HOW TO CREATE MORE SUSTAINABLE NPPS

At WNE this year, Intergraph France (L107) is offering to "empower your smart digital reality". The company is showcasing digital reality solutions designed to help the design, construction and operation of safe and – crucially – sustainable industrial facilities in the nuclear sector. Expect live demos.

MADE IN FINLAND

Harri Varjonen, Executive Director of FinNuclear, the country's nuclear association is present with eight Finnish nuclear tech firms at WNE

"The eight Finnish companies represented here in our pavilion show that our firms have expertise across the entire nuclear power value chain from uranium mining to commissioning and operation of entire nuclear power plants," explained Harri Varjonen, Executive Director of FinNuclear, the country's nuclear association.

Finland has been a leader in nuclear power in Europe, commissioning its first plant in the late 1960s, with its latest one, Olkiluoto, the first European Pressurised Reactor with a capacity of 1600 MW to come into operation in the continent in April 2023.

The Olkiluoto plant will help Finland generate 40% of its electricity via nuclear power and enable the country to reduce its importation of electricity to zero alongside its hydro and renewable electricity generation.

Collaboration is a key theme for FinNuclear, not just among Finnish companies but across the Nordics, said Varjonen. This has led the association to organise the Nordic Nuclear Forum, which will take place in Helsinki from 21-22 May 2024.

Another critical technology being developed in Finland is a solution to dispose of spent nuclear fuel, said Varjonen. This work is being undertaken by Posiva with the first fuel being disposed of at its Onkalo facility excavated deep in the bedrock in 2025.

INTERVIEW

WESTINGHOUSE: 'EXTRAORDINARY TIMES' FOR NUCLEAR INDUSTRY

With the search for clean, emission-free energy more critical and urgent than ever, it's hardly surprising that Westinghouse, one of the world's biggest manufacturers of nuclear powerplants, should be taking a major role in this year's WNE.

"This is an extraordinary time for the nuclear industry," said Westinghouse's president and CEO, Patrick Fragman.

"The market fundamentals we see today, even compared to the WNE exhibition just two years ago, are as strong as they have ever been. Now is the time to deliver on the promise of advanced nuclear technology and services, for existing plants and for new generation needs, to address the world's most pressing challenges of the clean energy transition and energy security.

"For these reasons, Westinghouse supports the WNE not only as an exhibitor, but as a platinum sponsor. It is one of the global platforms for the nuclear sector, especially at this critical juncture of a changing climate, energy crisis, and geopolitical conflicts."

At the show, Westinghouse intends to highlight its products for the full nuclear cycle and present its advanced reactor portfolio, including the AP1000, the AP300 SMR, and eVinci microreactor.

The AP1000 reactor is already in service around the globe. Currently, four units utilising AP1000 technology are operating in China. Six more are under construction in China and one is operating at Plant Vogtle in Georgia, while a second nears completion. The smaller AP300 SMR leverages that operating experience, as well as tens of millions of hours on AP1000 reactor development.

"We're also looking forward to sharing our global operating plant services expertise to help position our customers' nuclear assets for the future, as well as our latest fuel technologies and environmental services.

The expert panel sponsored by Westinghouse focuses on the security of fuel supply and deployment of advanced reactors to deliver safe, clean energy.

"We're honoured to share the stage with our distinguished customers Petro Kotin (Energoatom), Petra Lundström (Fortum), and Valentin Nikolov (Kozloduy Nuclear Plant)," said Fragman.

"The war in Ukraine has clarified the energy stakes and accelerated the need for alternative energy sources. We're proud to have delivered in record time the first VVER-440 fuel assembly to Ukraine, paving the way for fuel diversification in other European countries.

"Our APX family of reactors, the safest and most advanced reactor technology available globally, is already in operation or active development across three continents today. They will uniquely contribute to shaping tomorrow's energy systems."

Patrick Fragman
Westinghouse's president and CEO

Security of Supply and Advanced Reactors in the Current Challenging Environment. Panel organised by Westinghouse. 15:00-15:45, Main Stage

> *Now is the time to deliver on the promise of advanced nuclear technology and services, for existing plants and for new generation needs, to address the world's most pressing challenges of the clean energy transition and energy security*

EXPLORING THE LESS-KNOWN SOCIAL BENEFITS OF NUCLEAR

Nuclear energy is – and will be, in the near future – a major social asset. That's the observation of Stephane Sarrade, director of Low Carbon Energy Programs at CEA.

In considering uses of nuclear energy, the point is not whether industries such as automotive, pharmaceutical or construction are invested in nuclear today but rather "what will happen in the near future regarding the net zero 2050 strategy".

It's a theme likely to recur in the panel discussion Sarrade chairs at 16:15 today on 'Multiplying benefits for society: nuclear for healthcare, hydrogen and heat production'

Hydrogen, by itself or blended to produce sustainable e-fuel, will be needed in huge quantities; for heavy transportation, for instance, when direct electrification is not possible.

"Nuclear energy and nuclear heat, combined with systems such as high-temperature electrolysis, can produce carbon-free (or very low carbon) hydrogen," he said. "We are looking closely on the efficiency of such systems.

"The best way to use heat for industrial processes, at an interesting price and with a high efficiency, is also a field for technological study."

On the healthcare front, a broad new field, theragnostic, is based on nuclear. "The idea is to use specific radioactive isotopes – that we have to produce – to diagnose a disease, such as a cancer, and at the same time treat it," said Sarrade.

"We will talk about 'global health', and how nuclear is already used today, for food, water issues, and environmental issues more broadly. The uses of nuclear contributing to human health are wider than you think! It seems to me that this part of the panel will be a real eye-opener."

Topics that panellists will discuss include climate goals in China and how nuclear can contribute to meeting them; meeting the need for large quantities of isotopes for medicine by producing them in commercial NPPs; and "possibly also water desalination and other unexpected uses of nuclear energy".

He added: "I hope people will learn a bit more about the wide uses of nuclear today, and realize all that this technology, if managed well, has to offer."

CEA panel, 16:15, Main Stage. 'Multiplying benefits for society: nuclear for healthcare, hydrogen and heat production

MONARK CROWNED SUCCESSOR TO VENERABLE CANDU REACTOR

A new, larger variant of Canada's long-lived CANDU reactor was announced at the show yesterday. Currently, there are two versions of the CANDU in service, producing around 700MW or 900MW.

The new variant, dubbed CANDU Monark, will produce 1,000MW. It is described as very similar to the current 900MW version, but will be built using modern robotic and digital construction techniques and feature predictive maintenance.

The project is currently in the definition phase and work is continuing to finalise the Monark's design features. "These modern large-scale reactors will play a critical role in producing the quantum of additional electricity supply that's required to power the energy transition, providing energy security and reliable, clean power for millions of people," said Ian Edwards, President and CEO at AtkinsRéalis.

Joe St Julian, President, Nuclear, AtkinsRéalis, said: "The CANDU Monark reactor is the evolution of a proven Canadian technology that has not only been sought around the world, but for which our clients approach us to refurbish so they can operate it even longer. They recognise the strength of CANDU technology as a heavy water reactor, and how it stacks up against other products on the market.

"It's that enthusiasm from existing and prospective clients, underpinned by global demand for power solutions that provide for both net zero and energy security, that spurs innovation like the enhanced reactor designs introduced today."

There are 30 CANDU reactors in operation worldwide, saving the equivalent of around 30 million tonnes of greenhouse gases per year.

STEVE NICHOLS

First WNE pavilion for Italy

Italy has its own pavilion at this year's WNE, courtesy of the Italian Trade Agency. The pavilion houses 11 Italian companies involved in the nuclear industry and at 10:30am tomorrow, the country will also host a workshop titles 'Made in Italy – Technological Solutions for Tomorrow's Nuclear Power', a series of presentations by six leading figures from Italy's nuclear industry.

Italy has had four operating nuclear power reactors, but shut the last two down following the Chernobyl accident. Italy is the only G8 country without its own nuclear power plants, having closed its last reactors in 1990.

In 2008, government policy towards nuclear changed and a substantial nuclear newbuild programme was planned. However, in a June 2011 referendum the 2009 legislation setting up arrangements to generate 25% of the country's electricity from nuclear power by 2030 was rejected.

Although immediately following the Fukushima accident, the government had declared a one-year delay on nuclear plans, the referendum strongly rejected all of the four initiatives promoted by the then Italian Prime Minister, Silvio Berlusconi.

More recently, in July 2021, a public opinion poll conducted on behalf of Comitato Nucleare e Ragione found that more than half of respondents would not exclude the future use of advanced nuclear technologies.

About 6% of the electricity consumed in Italy is from nuclear power – but all of it is imported.

GOLD SPONSORS

CNNC SHARES 60 YEARS OF EXPERIENCE WITH THE WORLD

WNE Gold sponsor China National Nuclear Corporation (CNNC) will share its wisdom on the safe, green and sustainable development of nuclear energy at this year's event.

With more than 60 years of nuclear experience, CNNC will highlight its knowledge and achievements in nuclear innovation, including successes in the ITER project and other collaborative accomplishments.

Lixin Shen, director general, Department of Business Development and International Cooperation, says: "WNE is a globally renowned showcase for the international nuclear energy industry, which sets the standard worldwide. We aim to comprehensively showcase the strength and brand image of CNNC, while fostering cooperation with international counterparts. WNE enables us to collectively address the challenges of climate change and global energy and promote the sustainable development of the global nuclear energy industry."

*in*brief

DEVELOPING RADIATION PROTECTION SINCE 1949

The development of radiation protection equipment has been at the heart of Berthold Technologies for more than 70 years. These range from portable instruments such as contamination meters and hand and foot monitors to beacons designed to monitor installations and the environment for gamma irradiation, rare gases and aerosols. This year, the team is showcasing the BodyScan full body controller at stand K009.

A DEEP DIVE FOR SAFER INSPECTIONS

Canadian company Deep Trekker (M008) develops remotely operated vehicle (ROV) systems that offer an alternative to (or complement) sending divers underwater to carry out inspections on cooling towers and other structures. Its ROVs can work in hazardous waters without the need to turn systems offline. The company has brought examples to WNE for visitors to test drive and find out how they can improve the process of inspecting spent fuel pools, reactors and intakes.

INGENIOUS TECH FOR RADIOACTIVE MATERIAL TRANSPORTATION

Italian company Adros SRL [A134] is showing its innovative approach to containing radioactive materials, including Karluccio, a Type A drum packaging for radioactive material that is fully regulated for safe transport; Korrado, for non-fissile radioactive materials in a solid state; and RAR 2 for non-fissile radioactive materials up to a maximum of 333kg gross.

SPECIALIST VALVES FROM ADAMS

WNE newcomer German-based ADAMS Armaturen (A116) is showcasing its specialist valves for nuclear power plants (NPP). Manufactured according to the highest safety standards and customer requirements, its flooding valves are designed to increase NPP safety by flooding the core chamber in an emergency.

hall highlights

Four-legged friend: ANYbotics' Duncan Kennon takes ANYmal for a walk

ANYBOTICS' ANYMAL IS ON THE LOOSE!

ANYbotics is displaying its ANYmal robotic solution that can automate nuclear inspections. The Zurich-based company said the four-legged robot can increase plant uptime, reduce costs, and improve safety by removing workers from hazardous areas.

ANYmal, being demonstrated on the CEA stand, features a ruggedised design, impact protection, and is dust and waterproof (IP67 rated) for all-weather operation.

The company's Duncan Kennon said it can carry many different sensors, including visual and thermal cameras, a spotlight, a microphone and a LIDAR scanner for 360° environment scanning. It can also be fitted with a radiation detector for nuclear applications.

For WNE, CEA has mounted a gamma camera to ANYmal's nose. ANYmal can be controlled via a tablet computer using Wi-Fi or be left to operate autonomously. It can even climb and descend stairs.

Kennon said that they had recently demonstrated ANYmal at Sellafield in the UK, where developing technologies continue to change the way we think about clean-up and decommissioning.

VIRTUAL SEEING IS BELIEVING

Silver sponsor Capgemini (J074) transports visitors to its stand with a virtual reality experience. The company works with Microsoft to produce a comprehensive suite of solutions that enable customers to unlock the boundless possibilities of immersive technology. "Immersive technology is not limited to customer experiences," says Capgemini. "It has the power to transform your operations as well. It helps organisations optimise their industrial processes and achieve operational excellence to deliver tailored solutions that streamline workflows, enhance productivity, and drive cost savings." Capgemini says its solutions can "unlock the full potential" of workforces and assets whether through immersive training programmes, remote collaboration tools or maintenance and inspection solutions.

Above: Diego Gallego from Capgemini demos the VR experience visitors can enjoy on the company's stand at the show

TRY YOUR ARM AT TELEMANIPULATION...

Marco Bolignori, from Scuola Superiore Sant'Anna, Pisa, tries his hand at using a MT120 remote telemanipulation device on the LaCalhene stand (B120). The MT120 has X and Y axes equipped with electrical offsets with full balancing and is available with three arm sizes (short, medium or long slave arm) and in two versions – non-disconnectable arm/disconnectable master arm.

WNE INNOVATION AWARDS 2023

10 awards, ten grand prize winners. Those were the results revealed yesterday evening at the fourth WNE Innovation Awards presentation on the Main Stage

A PERFECT TEN

SOCIETAL AND SUSTAINABLE RESPONSIBILITY

1) Big groups: Framatome
2) SMEs/VSEs: Fluiid

NUCLEAR SAFETY

3) Big groups: Orano
4) SMEs/VSEs: Foretec

OPERATIONAL EXCELLENCE

5. Big groups: Orano
6. SMEs/VSEs: Distran

PRODUCTS AND SERVICES

7. Big groups: EDF
8. SMEs/VSEs: H3D Inc

SKILLS & KNOWLEDGE MANAGEMENT

9. Big groups: Framatome
10. SMEs/VSEs: Isokan Formation

MORE INFO
Scan the QR code to learn more about all of our 2023 Innovation Award entrants

inbrief

NEW MONIKER FOR MONITORING EXPERTS

GIHMM (AD152) is presenting products and solutions surrounding environmental online monitoring of AbG radiation in Europe. Formerly BITT Technology, the company is based in Austria and manufactures radiation warning systems. It specialises in early warning systems, measuring environment radiation, isotope identification in-situ and much more. Recognised around the world, GIHMM's products on show include Gammo Tools GT1D and GT 2D (an area and survey meter), cloud Scada software and proportional counter Gamma Probe RS04.

TAKING SCREENING TECH TO THE NEXT LEVEL

Next gen water intake screening technology that's easy to install on existing structures, needs virtually zero maintenance and can provide solutions to water extracting conundrums: sound too good to be true? Hydrolox [E014] is at WNE to convince visitors it can deliver all of the above with its engineered polymer travelling water screens. Durable solutions that are proven in the lab and on site, Hydrolox says its screens last five times longer than traditional materials and are fully compliant across the board.

PARTINGSHOT

EVERYONE'S A WINNER...

It was glasses raised and congratulations all round as the assembled attendees celebrated our 10 WNE Innovation award-winners. The ceremony took place on the Main Stage last night...

CANADA AND ROMANIA SIGN DEAL FOR NPP LIFE EXTENSION

Canadian company AtkinsRéalis is to refurbish Romania's Cernavoda Unit 1 nuclear powerplant, to extend its life by 30 years.

The Cernavoda plant's initial CANDU nuclear reactor went active in 1996; it produces around 675MW. Announcing the refurbishment project at the show yesterday, AtkinsRéalis president and CEO Ian Edwards said that the plant produces "some of the cheapest electricity on the planet".

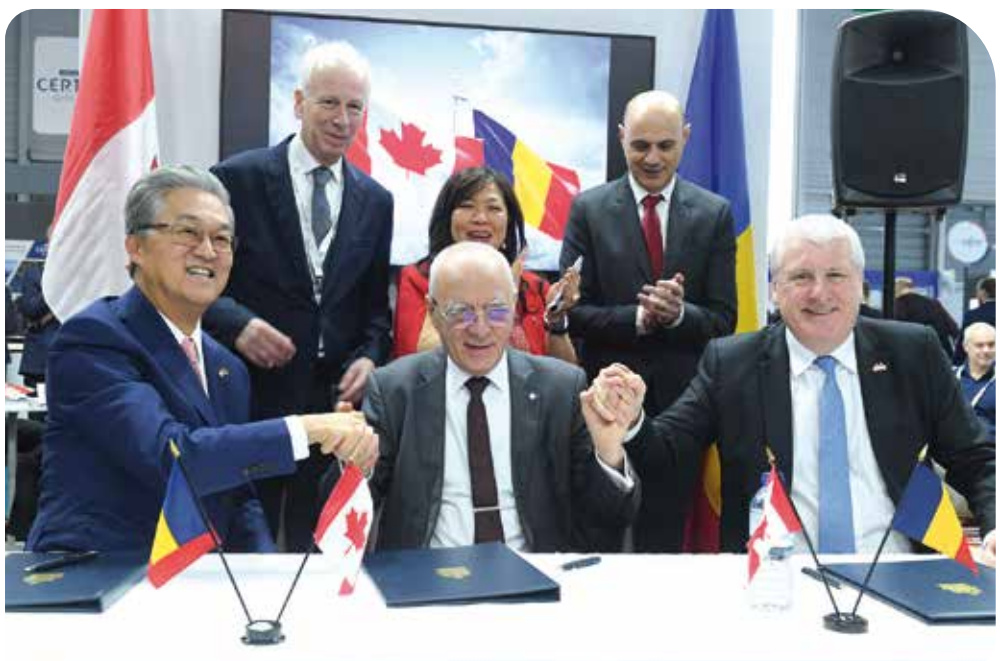
Extending its life for another three decades "is good value both for the economy and the environment".

Edwards added that AtkinsRéalis had a track record of similar life extensions on nuclear power stations in Ontario.

The Romanian refurbishment will essentially involve a complete rebuilding of the reactor, with preparatory planning and tooling work taking place over the next three years and the reactor coming off-line in 2027 to allow the 3.5-year onsite work to get under way.

Carl Marcotte, AtkinsRéalis vice-president marketing and business development, noted that when Romania originally built the Cernavoda 1 and 2 units, the country's government also undertook civil engineering construction for two further units, but did not complete the project.

Now, however, a Canadian-US-Italian grouping is working together to create the 'missing' two units. The Canadian government has announced financing of around C$3 billion towards the project.



All smiles: Canadian and Romanian executives and politicians mark the signing of the deal to refurbish Romania's Cernavoda Unit 1 nuclear power plant