HOW THE 7 PRINCIPLES OF THE YOUTH DECLARATION FOR NUCLEAR COOPERATION ARE APPLIED

PRINCIPLES IN ACTION

REAL-LIFE STORIES FROM RUSSIAN AND INTERNATIONAL YOUTH

PRINCIPLES IN ACTION

7
PRINCIPLES

64
COUNTRIES

1015+
STORIES

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YOUTH DECLARATION FOR NUCLEAR COOPERATION

1 Nuclear safety and security

Nuclear Industry must ensure the highest level of safety and security including protection from operation incidents and potential threats in the economic, political and social context.

2 Equal access to education and knowledge

Education and knowledge of nuclear science should be accessible to all nations and people — free from discrimination and monopolies.

3 Nuclear science at service to humanity for a better world

The power of nuclear science and technology should be a force for humanity dedicated to solving the pressing challenges through the innovation in industry, progress in medicine, protection of the environment.

4 Youth Leadership Empowerment

Young people are essential architects of the nuclear future. Their power lies through the six pillars of action (education, training, public participation, public awareness, access to information, international cooperation) and multi-generational knowledge exchange to ensure a safer and sustainable future.

5 Continuous Development and Future Focus

The nuclear field can only progress through continuous renewal of knowledge and intentional succession strategy transferring.

6 Cooperation, Trust, and Mutual Assistance

The nuclear future is only possible through transparent and honest partnerships built on mutual respect, trust, and willingness to support and work with each other.

7 Responsible access to achievements in nuclear technology

Countries that adhere to internationally accepted standards and regulations under the aegis of IAEA must have non-discriminatory, equal, and comprehensive access to advanced technological achievements in nuclear energy for their peaceful and sustainable development.

ABOUT THE DECLARATION

Youth Declaration for Nuclear Cooperation — A Consolidated Position of the New Generation of Professionals in Support of Sustainable Development.

HISTORY OF CREATION

The Declaration was a key outcome of the work of 100 young leaders from 33 countries during a five-day strategic session held on the sidelines of the World Atomic Week in Moscow in September 2025. Participants were selected based on their academic, scientific, and professional achievements in the fields of nuclear science, industry, and sustainable development. They represented 81 organizations — from national nuclear agencies and research laboratories to international associations, parliamentary commissions, and educational institutions.

The Declaration represents the collective view of the young professional community on the role of peaceful atomic energy in addressing global challenges. It is a call for practical and multilateral cooperation in nuclear technologies to achieve technological and social progress.

The International Forum “World Atomic Week” (WAW — 2025), dedicated to the 80th anniversary of the Russian nuclear industry, took place in September 2025 in Moscow at VDNKh. The forum, organized by Rosatom State Atomic Energy Corporation, featured an exhibition showcasing achievements in the nuclear industry. The business program included thematic tracks such as “Affordable Clean Energy,” “Industrial Innovations: Improving Production,” “Ecology: Making the Planet Cleaner,” “Advanced Medicine: Protecting Human Health,” “Digital Breakthrough,” “Mobility: Logistics Without Borders,” “Comfortable Living Environment,” and “Science and Education: Drivers of Progress.” On the sidelines of the forum, an extensive youth program was held, bringing together over 18,000 young people from around the world, as well as the 2nd Youth Festival “Composites Without Borders.”

PURPOSE AND OBJECTIVES

THE DECLARATION

is a call to action
for the nuclear industry

THE GOAL

is to formulate principles
for building a safe and
sustainable nuclear future

THE DOCUMENT AIMS TO

01

Consolidate the position of the youth professional community on key issues: safety, education, and international partnership

02

Outline priorities and expectations regarding the development of nuclear technologies

03

Serve as a foundation for constructive dialogue between the new generation of specialists and industry leadership

04

Engage the global youth audience in practical efforts to shape the future of the industry

LEADERS' TESTIMONIALS

The Declaration has received public endorsement from leaders of the global nuclear industry and international organizations.

Mikhail Chudakov,

Deputy Director General and Head of the Department of Nuclear Energy, IAEA: "It is hard to believe that the younger generation authored this Declaration. Indeed, it is a deeply philosophical document that demonstrates that young people are moving towards a bright nuclear future."

Alexey Likhachev,

Director General, State Atomic Energy Corporation Rosatom: "We will do whatever it takes to achieve these goals. However, it only makes sense if your generation will do better than ours: more competent, better skilled, and better at tackling challenges. You must leave us behind, and we will only be grateful for it."

Elsie Pule,

Head Coordinator, BRICS Nuclear Platform: "Looking at all these principles, I believe, this is a very pragmatic initiative, and I fully agree with them. I really like your approach, and I look forward to seeing how all this will be implemented for the youth, future generations, and all of humanity."

Sithembile Mbuyisa,

Group Executive: Human Capital, South African Nuclear Energy Corporation: "The work done is excellent. This is a sign that young people play an important role in building the future not only for ourselves but also for generations to come."

Tran Chi Thanh,

President of the Vietnam Atomic Energy Institute (VINATOM): "Nuclear energy and technologies require safety, and therefore, human resources. Herein, the human resource is our young generation."

Azim Ahmedkhadjaev,

Director of the Atomic Energy Agency under the Cabinet of Ministers of the Republic of Uzbekistan: "We endorse every clause stated in today's declaration, and we believe it is impossible to outcast any particular statement as the best. They all complement each other, and this is the foundation for a broad action plan along which will guide us along with you."

Tatiana Terentyeva,

Deputy Director General for HR, State Atomic Energy Corporation Rosatom: "Thank you very much for this outstanding, profound, and very thoughtful effort. I join this declaration."

ABOUT “PRINCIPLES IN ACTION”

GOALS AND CONTENT

The purpose of the “Principles in Action” collection is to capture the current moment through the eyes of young people — to see what they experience, feel, and observe in their everyday lives.

Each story in “Principles in Action” is an observation, a testimony from our contemporaries — engineers, environmentalists, doctors, humanities specialists, students, and school pupils — about how the principles of the Declaration are realized in practice. What inspires and brings hope, and what prompts reflection.

We believe that the collected stories will inspire millions of people around the world, showing that nuclear technologies represent not only the beauty of science and the power of creation but also a profound responsibility that we all share.

HOW WERE THE STORIES COLLECTED AND SELECTED?

Stories were gathered both at in-person events and online. In person — at major international platforms: from the grounds of the “Atomprofi” young professionals festival in Russia to professional discussions in Bolivia and small-scale meetings with young researchers. Online — through various youth and scientific organizations, specialized media, and mailing lists.

As of early summer 2025, 1,015 stories from 64 countries had been collected. Naturally, not all cases could be included in the printed version of the book. One hundred stories were selected for publication — chosen to reflect the greatest possible diversity of contexts and experiences.

Most of the stories were submitted anonymously. Many participants chose not to disclose their names — not because they had something to hide, but because they were sharing personal experiences: their first professional steps, challenges in international cooperation, or work in a sensitive field.

Anonymity made the stories more candid. It allowed authors to speak freely about real obstacles — from bureaucratic complexities to cultural differences and geopolitical factors. Personal stories proved more important than names. In these cases, the focus is on the experiences, observations, and conclusions of young people, rather than their positions or status. Despite the anonymity, the stories are remarkably concrete.

They contain real cities, laboratories, universities, workshops, and experimental fields — from university classrooms to agricultural sites and medical clinics.

WE HAVE CAREFULLY PRESERVED THE AUTHENTICITY OF EACH NARRATIVE.

MINIMAL EDITORIAL REVISIONS WERE MADE ONLY TO IMPROVE CLARITY, WHILE LEAVING THE STRENGTH OF PERSONAL TESTIMONY UNCHANGED.

DEMOGRAPHICS

GEOGRAPHY OF THE CASES

64 COUNTRIES

4 CONTINENTS

1015 STORIES TOLD

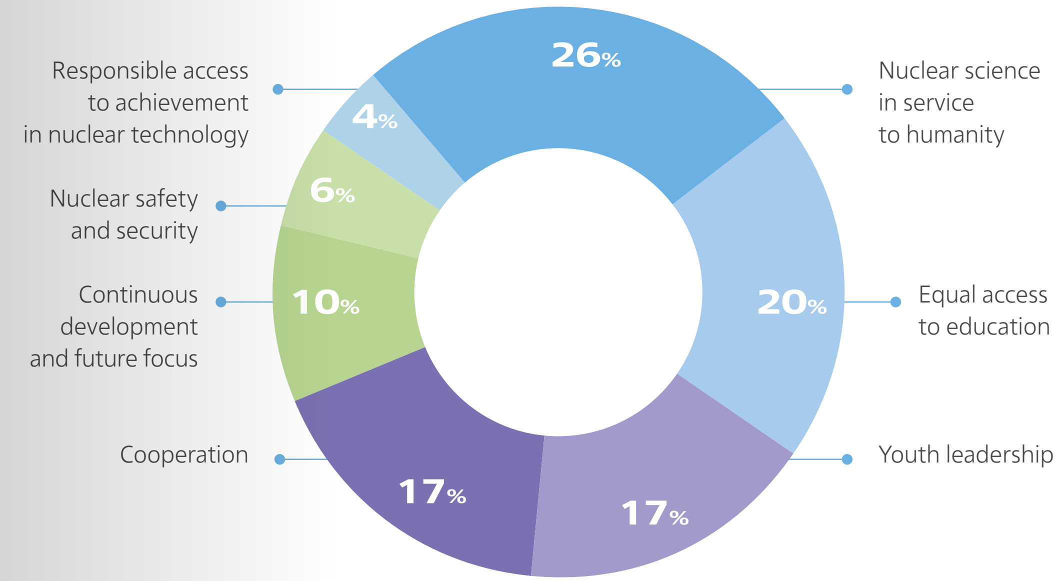
The authors of the stories live in Asia, Europe, Africa, and South America.

The stories were shared in more than 15 languages. These include Russian, English, Arabic, Spanish, French, Vietnamese, Chinese, Indonesian, and Portuguese. **The longest geographical span of a single story is nearly 9,000 kilometres** — from a small town in Southeast Asia to an international research laboratory in Europe.

TOP 7 COUNTRIES BY NUMBER OF CASES

Russia | Uzbekistan | South Africa | Belarus | Vietnam | Indonesia | Brazil

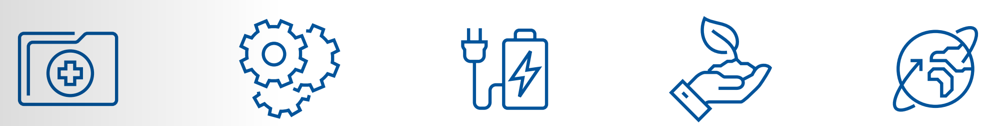
DISTRIBUTION BY DECLARATION PRINCIPLES



The most prominent principle: Principle 3. Nuclear science at service to humanity for a better world. The principles of safety and access to technology most often serve as a foundation for other themes.

WHERE PEOPLE ENCOUNTER NUCLEAR TECHNOLOGIES

MOST COMMON FIELDS



Medicine | Scientific research | Energy | Agriculture | Environment and climate

Fact: the word “medicine” appears in the cases 73 times.

WHO TOLD THESE STORIES

THE AUTHORS

STUDENTS

YOUNG ENGINEERS

TEACHERS

DOCTORS

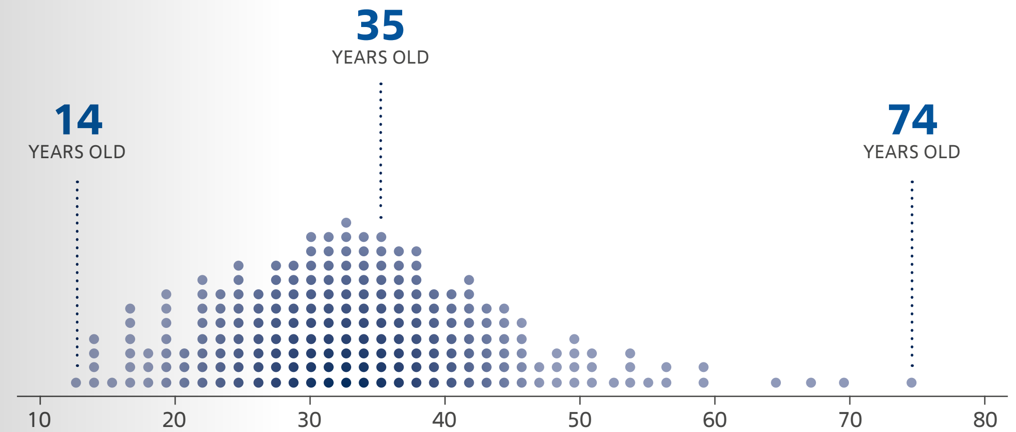
TECHNICIANS AND SKILLED WORKERS

RESEARCHERS

AS WELL AS PARENTS, CHILDREN, GRANDCHILDREN, FRIENDS, NEIGHBORS, AND RESIDENTS OF CITIES

Fact: more than 120 professions are mentioned across the cases. Among the authors are not only engineers and researchers but also doctors, patients, teachers, farmers, programmers, technicians, environmental specialists, and even beekeepers.

AGE OF THE AUTHORS



THE YOUNGEST AUTHOR IS 14 YEARS OLD

His story is about a school project on environmental radiation monitoring.

MOST OF THE STORIES ARE TOLD BY PEOPLE UNDER THE AGE OF 35

We asked young people, but they often spoke about their mentors, and the mentors, in turn, wanted to share their own perspectives. This made the book more layered and added voices from the 35+ generation.

THE OLDEST CONTRIBUTOR IS 74 YEARS OLD

He is an industry veteran who shared his recollections of the first international scientific projects he participated in during the 20th century.

INTERESTING FACTS

01 **20% of the stories bridge multiple generations.** Young authors often talk about their families, teachers, or mentors who influenced their career choices.

02 **More than 80 cities are mentioned in the stories**. Ranging from major scientific hubs to small university towns.

03 **Over 40 universities and research centers are referenced in the stories.** From small regional laboratories to the largest international research organizations.

04 **One in every four stories involves international experience.** This includes internships, collaborative research, studying abroad, or participation in international scientific events.

05 **Many stories begin by chance.** For a significant number of the authors, their introduction to nuclear science happened unexpectedly — through a school project, an internship, a lab tour, or a conversation with a teacher.

06 **More than half of the stories start with a personal experience.** hese are not general reflections on technology but specific moments in life: the first experiment, the first internship, the first question asked at a conference.

07 **The shortest story consists of just four sentences**. Yet it became one of the most emotional — about how radionuclide diagnostics helped detect an illness in a loved one in time.

08 **The word “medicine” appears 73 times across the stories.** Most often, the authors spoke about cancer diagnostics, radionuclide therapy, and medical imaging.

09 **More than 30 different applications of nuclear technology are mentioned in the stories.** Ranging from energy and medicine to archaeology, ecology, agriculture, and industrial diagnostics.

10 **Over 40 cases are related to agriculture.** Young researchers and farmers shared stories about using nuclear methods for plant breeding, soil analysis, and water resource management.

11 **One in every six cases is connected to education**. Young people talked about lab courses, student projects, and international educational programs.

12 **More than 40% of the stories are written from the perspective of girls and young women.** The authors include female students, engineers, researchers, doctors, and young professionals.

13 **The word “safety” appears more than 120 times.** It is one of the most frequent terms in the stories of young engineers and students.

14 **The most common words in the stories are:** “future,” “energy,” “trust,” “safety,” “research,” “team.”

PRINCIPLES IN ACTION.
STORY COLLECTION

01

PRINCIPLE 1

NUCLEAR SAFETY AND SECURITY

Nuclear Industry must ensure the highest level of safety and security including protection from operation incidents and potential threats in the economic, political and social context

THE ALARM THAT TURNED OUT TO BE A DRILL. BANGLADESH

I am a junior operator at a training facility. We regularly conduct simulator-based exercises that replicate different operating modes of the plant.

During one training day, an alarm was triggered unexpectedly — something I did not anticipate seeing in the scenario. For a few seconds, I hesitated: was this part of the exercise or a real alarm?

One of the instructors immediately said, “In real life, you won’t be told whether it’s a drill or a real situation.” We began to act according to procedure: checking parameters, confirming signals, exchanging information between control points. After some time, it became clear that the alarm had been caused by a technical fault in the simulator.

It may seem like just a training system. But for us, it was a valuable experience. We realized that true readiness for abnormal situations is demonstrated not when you try to guess the scenario, but when you simply follow a proven procedure.

WHEN SAFETY IS NOT ONLY TECHNOLOGY, BUT ALSO HABIT. BANGLADESH

I work as a technician at the construction site of a nuclear power plant in Bangladesh. It is one of the largest projects in the country, and for many of us, it is our first experience in this industry. At the beginning, it was difficult to get used to the requirements: mandatory checks, strict access procedures, constant monitoring even of minor actions. Sometimes it felt excessive and slowed down the work.

Gradually, it became clear: there are no “minor details” here. Any deviation — even a small one — is recorded and reviewed. Every action follows instructions. Every decision takes safety into account. We were taught not just to follow the rules but to understand why they exist.

Over time, it became a habit. You start to automatically check yourself, notice risks, and stop work if something raises doubt.

In the nuclear industry, safety is not only about systems and technologies. It is a culture that is formed every day — through people, their decisions, and their responsibility.

A NOTE IN THE LOGBOOK. RUSSIA

I work as a laboratory technician in a radiation monitoring unit. Our work rarely makes the news: we measure, check, and record results. Most of it is routine.

One day, during a regular inspection, I noticed that the readings from one of the monitoring devices differed from what we usually see in that area. The value was still within normal limits. Formally, there was nothing alarming. I could have simply recorded the result and moved on. But what concerned me was not the number itself, but the fact that it was slightly above the usual background level.

I made a detailed entry in the logbook and reported it to a senior specialist. We decided to carry out an additional check. It turned out that the issue was not related to the radiation situation but to a malfunction of the sensor itself.

On the one hand, nothing serious. On the other hand, this is exactly how the safety system works: any deviations are checked, even when the probability of risk is very low.

When I told this story to acquaintances, they were surprised, “Why pay so much attention to small things?” But in our work, there are no small things.

WHEN DIALOGUE REDUCES ANXIETY FASTER THAN NEWS. UZBEKISTAN

I am a journalist for a regional publication in Uzbekistan. A few years ago, discussions began in our region about building the country’s first nuclear power plant. At the outset, the information landscape was predictable: many rumors, little verified information, and a high level of anxiety. People asked simple questions: Is it safe? What will happen to water resources? How will it affect life in the region? Most often, they could not find clear answers.

As a journalist, I found myself between two poles: on one side, official statements — often complex and technical; on the other, people’s concerns, expressed emotionally and sometimes based on myths. It was clear: if this gap was not bridged, mistrust would only grow.

Gradually, the communication format began to change. Open public discussions appeared, along with meetings with experts and engineers, and press tours to operating facilities. I participated in one such press tour. It was a turning point. I saw not only the infrastructure but also the safety system: multiple layers of barriers, control procedures, and a culture of responsibility. Even more important was the opportunity to ask any questions and receive direct answers.

After that, I began to write differently. I started translating complex issues into clear language, separating facts from assumptions, explaining how safety works rather than simply stating that “everything is under control.”

Over time, the tone of public discussion changed. Questions did not disappear, but they became more specific: not “is it dangerous at all” but “what specific protection systems are in place.” People began to distinguish between real risks and information distortions. This reduced the overall level of tension.

I realized that in such projects, safety is not only about technology. It is also about the quality of dialogue with society. Without dialogue, a vacuum emerges — and it is quickly filled with fear. With dialogue, even complex issues become manageable.

In large-scale infrastructure projects, the principle of safety and security is implemented not only through engineering solutions. Open communication, public engagement, and working with media as partners are equally important. This is what makes it possible to turn a potentially difficult topic into an informed public choice.

THE PASS THAT STAYED IN MY POCKET. SOUTH AFRICA

I was doing an internship at a training center associated with preparing personnel for nuclear infrastructure. As a student, everything around me felt new and very serious: access control, escorts, movement rules, and zones with different clearance levels. At first, it seemed almost excessively strict. It was tempting to think that if you are "one of us," you are trusted anyway.

One day after a training session, as I was about to leave, I realized that I still had a temporary pass belonging to a fellow intern in my pocket. He had accidentally handed it to me along with some printouts. It was a small issue. I could have simply returned it the next morning and quietly given it back to its owner without bothering anyone — especially since nothing bad had happened.

But during the induction course, we were told: in a secure environment, what matters is not only the absence of malicious intent but also the absence of "unaccounted situations." I called the duty officer, explained the situation, and returned to the site, even though it meant losing time.

The response was not punitive, as I had feared, but professional. They clarified the route, the time, and where exactly the transfer had taken place, and calmly resolved the issue. The next day, we had a short general debriefing without names or blame. The message was simple: a security system is built not on distrust of people but on precise control of access.

This incident significantly changed my attitude toward the profession. I understood that in the nuclear field, maturity is not about considering yourself above the rules but about following them even in situations that seem too minor to report. Security is a culture in which chance does not turn into a vulnerability simply because someone hesitated to raise their hand and say, "We have a discrepancy."

WHY I STOPPED SAYING "IT'S NOT MY AREA OF RESPONSIBILITY". SOUTH AFRICA

I work at a research facility where specialists from different fields — physicists, engineers, equipment operators, and IT professionals — often collaborate within the same team.

At the beginning of my career, I had a rather narrow view of safety. I believed my responsibility was limited to monitoring my own equipment, while everything else belonged to others.

One day, while preparing an experiment, I noticed that a cable had been temporarily routed across a passage commonly used by personnel. It was not a violation — temporary solutions are sometimes allowed during installation. Still, it seemed to me that in this position the cable could be accidentally damaged. I almost walked past. Then I went back and mentioned it to the technician responsible for the setup.

We quickly adjusted the cable routing. It took no more than ten minutes. Later, however, the experiment lead made an important remark, "Safety only works when people stop dividing the world into 'mine' and 'not mine.'"

After that, I began to see the workspace differently. Sometimes safety is simply the willingness to pause for a moment and ask a question.

THE USB DRIVE THAT COULDN'T JUST BE OPENED. SOUTH KOREA

I work in a digital support team at a facility related to nuclear technologies. Many people imagine security threats as something dramatic — complex attacks, external interference, major incidents. In practice, things are more routine. Most resilience depends on the ability not to break basic rules under time pressure.

One morning, a contractor brought me a USB drive containing an updated package of technical files. He was in a hurry: we had a scheduled work window that day, and several people were already waiting for the materials. The simplest option was obvious — quickly open the drive on the nearest workstation, verify the files, and pass them on.

However, we had a clear procedure for handling external media, designed precisely for such inconvenient situations. I asked to formalize the transfer according to procedure, check the drive in isolation, and only then allow the files into the operational environment. The contractor was visibly irritated. Colleagues were also uneasy; it seemed I was slowing things down unnecessarily.

The check took time. In the end, the drive did not contain a "movie-style cyberattack" but a typical unwanted file that had likely been transferred accidentally from a standard IT environment. Perhaps nothing serious would have happened. But in our field, safety cannot rely on "probably."

Digital security is not an obscure or excessive function of IT specialists. It is part of the overall safety culture, just as essential as access control or adherence to operational procedures. For me, the conclusion was clear: in the nuclear sector, security does not fail when someone deliberately attacks a system, but when well-intentioned people, under time pressure, begin to treat rules as optional.

WHEN PUBLIC FEAR BECAME PART OF THE TASK

I entered the industry from a completely different field and initially assumed that safety was a matter for engineers and regulators. My role seemed secondary: preparing materials for public meetings, responding to journalists' questions, helping experts communicate in clear language. I even felt uneasy using the words "nuclear safety" and "communications" together, as if they belonged to different domains.

One situation changed that perception. In the region where our project operated, false information began spreading on social media about an alleged "concealed incident" at the facility. The source was an ordinary event unrelated to radiation risks but it quickly evolved into a more alarming narrative. Within hours, what experts call an "information-driven amplification of anxiety" had formed.

If we had remained silent or responded with formal, bureaucratic language, distrust would have increased. Instead, our team quickly assembled verified information, prepared short explanations in plain language, involved technical specialists in direct communication, and clarified what monitoring systems were actually in place and who oversaw the data.

The situation did not stabilize immediately. But for me, the key insight was different: risks cannot be divided into "real technical" and "secondary reputational" ones. In the nuclear field, social panic also affects safety, because it undermines trust in procedures, information sources, and regulatory institutions.

Security is not limited to checkpoints, regulations, and physical barriers. It also includes the industry's ability to engage in transparent, timely, and professional dialogue with society. Where there is an information vacuum, it is quickly filled with uncontrolled interpretations.

DRILLS THAT WERE INITIALLY SEEN AS A FORMALITY

I work in a team responsible for training young specialists at a research facility. In my first months, what surprised me most was how seriously emergency training was taken. Coming from a digital background, it seemed excessive — scenarios are predefined, roles assigned, everything resembles a well-rehearsed performance.

Many young employees shared this view. During internal drills, I observed people acting correctly but mechanically: checking in, reporting, following routes, without much reflection. Only later did I realize that this is precisely the main risk — when procedures are executed without understanding their purpose.

One day, the facility experienced a routine, non-nuclear incident: heavy rain caused disruptions in external infrastructure, some digital services became unstable, and confusion grew due to inconsistent messages in internal chats. It was not an emergency but it showed how quickly organizational noise can affect decision-making.

At that moment, the drills proved their value. People did not improvise, duplicate commands, or seek informal sources of information. Everyone knew where to obtain verified data, whom to report to, and which actions required no improvisation. The situation was stabilized quickly because behavior had been practiced in advance.

Since then, I no longer see training as bureaucracy. In the nuclear field, safety is not only about the probability of a major incident. It is about the system's ability to remain controlled when something seemingly minor but atypical occurs — weather disruptions, information confusion, time pressure. True security begins where discipline outweighs panic.

WHEN POLICY CHANGES FASTER THAN STANDARDS — BUT SAFETY REMAINS CONSTANT

I work as a safety engineer at a nuclear power plant in a country where the political and economic environment has changed rapidly in recent years. External relations, supply logistics, the composition of contractors and partners — all have shifted. What once seemed stable has come under pressure from external factors.

The first challenges we faced were not technical but organizational: delays in equipment supply, the need to quickly replace contractors, changes in regulatory interaction. The key question was how to maintain a consistent level of safety in an increasingly unstable environment — especially when decisions must be made quickly, and consequences may be long-term.

The answer lay in adhering to a fundamental industry principle: safety is non-negotiable regardless of the political context. We took several steps.

(1) We maintained the priority of standards over deadlines: even under schedule pressure, all projects and operations went through the full cycle of checks and approvals.

(2) We introduced redundancy in critical processes: backup solutions were implemented for key systems and procedures to reduce dependence on external factors.

(3) We strengthened internal expertise: the team assumed additional responsibilities — training personnel, revising internal procedures, and developing in-house competencies.

(4) We sustained professional dialogue: despite political constraints, we preserved channels of interaction with the international professional community within technical and expert formats.

The plant continued operating without any reduction in safety levels. Moreover, processes became more resilient to external shocks, the team more autonomous, and the risk management system more mature.

This experience reshaped my understanding of safety as a system of decisions capable of withstanding external pressure.

Political contexts may change. Economic conditions may become more complex. Partners may come and go. But in the nuclear industry, one constant remains: safety and security must be preserved under all circumstances. This is what distinguishes a mature industry from a vulnerable one.

WHEN TRUST IS BUILT NOT BY DOCUMENTS, BUT BY EVERYDAY EXPERIENCE

I live in a small town near a nuclear power plant. I do not work in the industry; I am a schoolteacher. For us, the plant has always been part of everyday life: you can see it from the window, many people have relatives working there, and it provides jobs and supports the town's development. But like many others, I still had an inner sense of concern. The word "nuclear" is still associated with risk, even when you understand that technologies have advanced significantly.

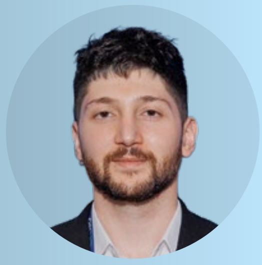
Several years ago, people in the town began talking more often about safety. Not in the form of official reports but through real actions: open meetings with residents, tours of the plant, and school lessons explaining how protection systems work. For the first time, I saw that behind all this were specific people and specific processes. At one meeting, an engineer said a simple phrase: "We live here ourselves. Our families are here. We cannot afford to work in any way other than as safely as possible." For me personally, that sounded more convincing than any figures.

I am glad to see how attitudes toward the plant have changed in the town in recent years. There is more transparency: people explain what is happening at the plant, describe how safety systems are organized, and answer questions — even uncomfortable ones. Schools have begun holding lessons on what radiation is and how real risks differ from myths. It was important not only to inform people but also to involve them.

I did not become a nuclear energy specialist. But I became completely calm. Because I understand how the safety system works, I know that there is control and responsibility, and I see the people responsible for it. Now, when my students ask questions about nuclear energy, I do not avoid the topic. I explain that safety is daily work.

From a social perspective, safety and security are not only about technologies and standards. They are also about transparency, dialogue with society, and trust based on understanding. This is what makes a complex and potentially dangerous industry part of normal life — without fear and without ambiguity.

FROM THE CREATORS OF THE DECLARATION



Gagik Harutyunyan, Armenia

Member of the Impact team 2050

The Youth Declaration is the result of the work of a global community of scientists, students, and activists. Its strength lies in a combination of ambition and practicality: it not only articulates values but also sets the direction for a more inclusive, sustainable, and science-based energy future.

Edi Trihatmoko, Indonesia

Associate Researcher, National Research and Innovation Agency of Indonesia

Participating in the creation of the Declaration taught me to look at projects as living systems. I design solutions that improve over time, take into account new data, and help make more accurate and sustainable decisions.

In fact, the principles of the Declaration have become a working framework for me — they manifest themselves both in projects and in daily work.

PRINCIPLE 2

02

PRINCIPLE 2

EQUAL ACCESS TO EDUCATION AND KNOWLEDGE

Education and knowledge of nuclear science should be accessible to all nations and people — free from discrimination and monopolies

THE CONVERSATION THAT STARTED WITH THE BADGE. ARMENIA

I came to Strasbourg, France, for a youth conference on green energy. And I immediately felt like a stranger. Nearby there are engineers, physicists, students of technical specialties. And I'm from Armenia, with experience in environmental organizations and international relations. When they started discussing reactors and cooling systems, I just shut up.

On the first day, it seemed to me that I had made the wrong conference. But at one of the round tables we talked about nuclear energy as part of a global transition. I didn't ask a question about technology but about public perception and environmental responsibility. After the session, a young specialist from Egypt came up to me and said, "You know, this is also important. We have engineers, but no one knows how to explain to people why it's safe."

That evening we talked for three hours. I talked about my work in environmental organizations, and he talked about how they train operators. It turned out that the nuclear sector needs not only physicists but also people who know how to build a dialogue with society, work with politicians, and write understandable texts.

The principle of equal access to knowledge was not revealed to me through lectures. He manifested himself through conversation. I realized that to enter the industry, you don't have to retrain from a humanities major to an engineer. It's enough that you can offer something that others don't have. And knowledge will come — if you are not afraid to ask questions.

By the end of the conference, I did not feel like a "laggard" but a part of the team. Now I continue to develop at the intersection of politics, sustainable development, and nuclear energy. And I know for sure that access to knowledge begins with a willingness to admit that you don't know something and find someone who will explain it.

WHEN A STRONG SCHOOL BECOMES AN ENTRY POINT INTO GLOBAL SCIENCE. ARMENIA

I am a graduate of the Faculty of Physics at Yerevan State University. In Armenia, a strong school of mathematics and physics is part of the educational tradition. Many of my friends and classmates took part in olympiads from childhood, entered specialized lyceums, and then continued their studies at universities. But for a long time, this knowledge remained mostly theoretical. We knew how to solve complex problems but we did not always understand how this knowledge was applied in real industry — especially in such high-tech fields as nuclear medicine.

In my third year, I attended an open lecture organized with the support of the IAEA and national partners. The lecturer, a practicing specialist, began with a simple idea: countries with strong basic education have an advantage, but without applied skills, this advantage cannot be realized. He showed how physics is used in diagnostics — PET and SPECT — in dose calculations, and in the development of radiopharmaceuticals. For me, this was a turning point. Behind the formulas and calculations, I saw real medicine and real patients.

In recent years, Armenia has begun actively developing the link between university, practice, and international cooperation. Specialized courses in medical physics have appeared, along with internships in clinics and research centers, and student participation in international programs and projects. The key point was that access to these opportunities became available not only to students in the capital but also to young people from the regions — through open programs, grants, and academic mobility. I completed an internship where, for the first time, I worked with medical images and took part in calculations related to diagnostics. That was the moment when knowledge became truly applied.

Today, I continue my studies in medical physics and participate in projects related to the introduction of modern diagnostic methods. But the most important change is my understanding of the role of education. Previously, it seemed that a strong school was already a sufficient advantage. Now it has become clear that what matters is not only the quality of education but also access to its continuation — to practice, international experience, and modern technologies. Recently, I took part in a career guidance meeting with school students. One of them asked, "If I study well, does that mean I have a chance to work in such complex fields?" I answered, "Yes. But it is important not only to study. It is important to have access to opportunities where this knowledge can be applied."

Armenia is an example of a country with a strong fundamental school. But equal access to knowledge today is no longer only about the quality of education. It is about access to practice, integration into international scientific and educational networks, and the opportunity for students from different regions to enter modern industries. This is what turns good education into a real professional and social elevator.

WHEN INFRASTRUCTURE EXISTS, BUT PEOPLE NEED TO WORK TOGETHER. BELARUS

I am a graduate of the Faculty of Radiophysics and Computer Technologies at Belarusian State University. I now work in the healthcare system, in a team involved in diagnostics and medical image processing. When I entered university, I did not clearly understand where I would be able to apply my knowledge. It seemed that after my faculty, the path led either to academic science or to IT. At that time, I knew almost nothing about nuclear medicine. Although, as I later discovered, this field was already fairly well developed in Belarus: there were centers with modern equipment, including PET and SPECT.

The turning point came in my third year, when practicing specialists — doctors and medical physicists — came to our faculty. They explained a simple thing: the technologies exist in the country, but there are not enough specialists able to work at the intersection of medicine, physics, and data. For the first time, I saw that a doctor may not fully understand the physics of a process, a physicist may not always understand the clinical task, and a gap emerges between them that directly affects the quality of diagnostics. It then became obvious that the problem was not only access to equipment but rather access to interdisciplinary education.

As part of cooperation between universities and sectoral organizations, Belarus began developing educational tracks at the intersection of disciplines. Joint courses for physicists and doctors appeared, along with clinical internships, student access to real data and equipment, and participation in international educational programs supported by the IAEA. I joined such a program in my final year. For the first time, I found myself in a department using PET/CT and SPECT. I saw not just an "image" but the whole process: from dose calculation to result interpretation and clinical decision-making.

Today, I work in a team that brings together doctors, physicists, and IT specialists. We process and analyze medical images, help improve diagnostic accuracy, and reduce the workload on doctors. I can see how the system is changing: young specialists enter the profession faster, the gap between education and practice is narrowing, and patients receive more accurate diagnostics. Recently, I returned to the university as a guest speaker. After the lecture, a student came up to me and said, "I thought physics was not about people. But it turns out it is about saving lives."

Belarus is an example of a country where nuclear medicine infrastructure has already been established. But real equal access is created not only through equipment. It is created through the connection between universities and clinics, interdisciplinary education, and early student involvement in practice. This is what turns knowledge into accessible medicine.

WHEN ACCESS APPEARS BEFORE THE SYSTEM IS READY. VIETNAM

I am a young researcher and a graduate of Hanoi University of Science and Technology. I grew up in a small province in central Vietnam, where the quality of education depended largely on the efforts of a particular school and its teachers.

In high school, I was interested in physics and engineering, but access to modern materials was limited: outdated laboratories, a lack of equipment, and very little practical training. To prepare for exams, I used free online resources, often from my phone because I did not have a computer at home.

When I entered university in Hanoi, the gap became obvious. Students from large cities already had experience working with equipment, had participated in olympiads and projects, and were better oriented toward applied tasks. For students from the regions, like me, the first years were not so much education as a "catching-up stage." I realized that formal access to education exists for everyone. But starting conditions are different.

In my second year, I joined a research group participating in an international project supported by the IAEA. The key difference was not only the research topic but also the format of work: open access to modern scientific materials, regular online seminars with international experts, and teamwork with participants from other countries. For the first time, access to knowledge no longer depended on where I had gone to school. It depended on whether I was included in a professional community.

Two years later, I was already participating in a publication and a grant application. But something else became more important. I began working with younger students, especially those who had come from the regions. I helped them navigate scientific sources, laboratory work, and trajectory choices. Because I had gone through this catching-up path myself.

Vietnam is a country with a rapidly developing education system. But inequality in starting conditions remains between the regions and the capital. Equal access to knowledge today is ensured through digital educational resources, participation in international scientific networks, and early student involvement in research. This helps reduce the gap and make education truly accessible, not merely formally open.

WHEN AN ENGINEER BRINGS KNOWLEDGE BACK TO WHERE IT WAS LACKING. INDIA

I am a power engineer working on an industrial project in one of India's fast-growing regions. Our team includes graduates of leading technical institutes but also employees from small towns and rural areas whose educational paths were much more difficult.

Formally, access to education in the country is expanding: schools are being built and the number of students is growing. In practice, however, the gap between urban and rural schools remains significant: differences in teaching quality, limited access to laboratories, and a shortage of practice-oriented skills.

When we began recruiting young specialists for the project, it became clear that even with a diploma, levels of preparation varied greatly. This was especially visible in engineering disciplines: limited experience with real equipment, insufficient understanding of processes, and difficulties applying theory in practice. This was not a question of ability but of access to quality education.

We launched an internal training program for young engineers, focused on practice. It included basic engineering modules linked to real tasks, work with equipment under the guidance of mentors, and short intensive courses on safety and standards. We placed special emphasis on candidates from the regions: we helped level the knowledge base and gave them access to resources they had not had at university. At the same time, we began cooperating with technical colleges by holding off-site classes and introducing students to real industry.

Within a few months, the preparation gap began to narrow. Young specialists integrated into work faster, made fewer mistakes, and handled equipment more confidently. For me as an engineer, this led to an important conclusion: equal access to knowledge does not end at school or university. It continues in the profession — through mentoring, practice, and the transfer of experience.

In India's context, equal access to education is not only a matter of infrastructure. It is a matter of training quality, the connection between education and industry, and companies' willingness to invest in people's development. This is where an engineer becomes not only a performer but also a conductor of knowledge.

STARTING OVER. IRAN

I grew up in Isfahan. My father taught mathematics at school, so our home was always full of books and conversations about science. In high school, I became especially interested in physics and decided to enter university.

After school, I began studying engineering at one of Iran's universities. The first year was very interesting, but I gradually realized that I wanted to study nuclear energy specifically. That field turned out to be more complicated.

In Iran, the nuclear topic is always surrounded by a great deal of politics and international debate. This also affects the academic environment: there are fewer international programs, fewer joint research projects, and it is more difficult to participate in scientific exchanges.

By the end of my first year, I began looking for an opportunity to continue my studies abroad. My teacher told me about a program for training international students in Russia, and I decided to try. I was fortunate, and within six months I found myself in Russia, enrolling again as a first-year student — essentially starting university from the beginning.

At first, it was difficult: a different language, a new education system, and a cold winter I was not used to at all. But gradually, I adapted. There were students from different countries in my group, and many of them had also come to study far from home.

I am convinced that this is precisely what is most valuable in education: the opportunity to study where there is access to knowledge, laboratories, and teachers. Sometimes the path to science turns out to be longer than you planned. But the opportunity to continue education and work in a progressive academic environment makes that path possible.

THOUSANDS OF KILOMETERS TO A REACTOR: HOW A VIRTUAL LABORATORY ERASED BORDERS. KENYA

I live in a suburb of Nairobi. At our school, there was one old computer for the whole class, and we only read about nuclear technologies in the physics textbook section on atomic structure. It caught my attention, but it all seemed like some kind of magic happening far away, in the world of "big science." I had no laboratory and no mentor — only an old laptop and intense curiosity. I wanted to "touch" nuclear physics with my own hands. Not in theory but in practice. Better yet, I wanted to create something real related to radiation, on a minimal budget and using only things that could be found or ordered online.

Then I came across an open educational project called "Be Your Own Nuclear Engineer." It offered step-by-step instructions on how to assemble a simple but functioning dosimeter-radiometer based on Arduino and a Geiger counter. I ordered the components on AliExpress, spending the money I had saved from part-time work. I soldered everything in the garage while watching video tutorials. When I turned the device on for the first time and it started clicking as it registered background radiation, I was stunned. This was not a textbook. This was the real world — and I could "hear" it. I began measuring background radiation around me — everything was within normal limits — and studying how shielding affected the readings.

I brought my dosimeter to the school science fair. It caused a sensation. No one believed that something like this could be assembled independently. My project won the school competition and would probably have gone on to a national competition if one had existed. But something else mattered more than winning: I broke a stereotype. I showed myself and others that you do not need a super-laboratory to begin. You need access to structured, practical knowledge translated into the language of an enthusiast. Now I am studying engineering. I keep my first dosimeter as a talisman. It reminds me that equal access begins when someone posts a diagram online and says, "Repeat it. This is not magic. This is science, and it is yours."

WHEN KNOWLEDGE BECOMES ACCESS TO TREATMENT. KYRGYZSTAN

I am a fourth-year student at the Kyrgyz-Russian Slavic University in Bishkek. I study at the medical faculty and enrolled in an elective course in nuclear medicine — a new field that opened at our university with the support of Rosatom and Tomsk Polytechnic University.

At first, it was simply curiosity. In Kyrgyzstan, nuclear medicine was hardly discussed. Textbooks mentioned that such methods existed, but it seemed that they were somewhere far away — in Russia, China, or Europe, not here.

In one of the first lectures, we were shown a simple but troubling picture: radionuclide diagnostics in the country had long remained limited and practically inaccessible to most patients. This meant that when cancer was suspected, people often faced a choice: either travel abroad, which few could afford, or rely on ultrasound and X-rays, which do not always detect disease at an early stage. What struck me was not only the absence of technologies but the shortage of knowledge and trained specialists. Equipment can be installed, but without doctors, physicists, and radiochemists, it does not work. That was when I first thought: access to medicine begins not with machines but with education.

In May of this year, something happened that strongly influenced me. We were told that Technetium-99m generators — one of the key isotopes for diagnostics — had been delivered to the National Center of Oncology and Hematology. The delivery was organized with the participation of Rosatom and the IAEA. A small group of students was invited to observe the first procedures. I saw how a radiopharmaceutical was administered to a patient, how the gamma camera was started, and how an image appeared on the screen — the result of SPECT diagnostics. In effect, the country had begun introducing modern radionuclide diagnostics, which makes it possible to detect pathological changes at early stages, much earlier than many traditional methods.

I have now decided to apply for a master's program in nuclear medicine, which KRSU is launching jointly with Tomsk Polytechnic University. The program is small — about 15 places — and it accepts not only medical students but also specialists with a background in physics. I have already begun studying physics additionally. Now I understand why it is needed.

A FAILED EXPERIMENT AND THE TRIUMPH OF COMMUNITY. PAKISTAN

I am a student from Pakistan. I was fortunate to get an internship at an advanced European research center. For someone who grew up with limited access to equipment, it was paradise. I was given a small but independent research task in materials science: to conduct a series of experiments involving irradiation of samples and analysis of their microstructure. For me, it was a chance to prove myself at the global level.

I was so absorbed by access to the hardware that I ignored the fundamental stage of deep literature review. I was confident in my methodology. Technically, I carried out the experiment flawlessly. I spent weeks collecting data. But when I began writing the paper, my academic supervisor gently asked, "Did you check the work of that group from South Korea? They published an almost identical study with the same conclusions two years ago." I was stunned. It turned out that

access to expensive equipment had not replaced access to up-to-date knowledge. I had not been able to find that article because it was in a journal my home university could not afford to subscribe to. I had reinvented the wheel.

In the end, the experiment failed from a scientific standpoint. I felt intense shame. But that failure became my most important lesson. Instead of giving up, I raised the issue with the center's management together with other interns from developing countries. We proposed a solution: to create an internal knowledge base with mandatory reviews of the latest publications on key topics for all interns. Our initiative was supported. Now every new participant receives not only access to the laboratory but also an "intellectual starter package."

My failure showed that equal access to education and knowledge must be comprehensive. It is not enough to give someone a tool if they do not have access to the map already drawn by others. I now actively participate in projects for open publication exchange, so that no talented student wastes time because of an information barrier.

FROM A SMALL TOWN TO WORKING ON A UNIQUE PROJECT. RUSSIA

I grew up in a small town where the ultimate career aspiration was considered to be a job at the local factory. World-class science seemed like something from a parallel universe, accessible only to a select few in Moscow or abroad.

Everything changed when a branch of Lomonosov Moscow State University opened in Sarov, at the National Center for Physics and Mathematics. I set myself a goal: to join the team working on the XCELS project — the creation of the most powerful laser in the world. This is not just "education"; it is work at the frontier of human capability, where we aim to reach light intensities of 10^26 W/cm^2.

I passed the selection process and gained access to unique facilities and, most importantly, to intergenerational expertise. In our laboratory, there is a unique specialist — "the Master" — who can tell by the sound of the system whether pulse amplification is proceeding correctly. He passes on this tacit knowledge, which cannot be found in textbooks.

Today, I — someone from a small town — represent the XCELS project internationally. We are creating "star-like conditions in the laboratory" to advance future medicine and new physics.

This is an ideal illustration of the principle: when knowledge and unique technologies become accessible to talented young people regardless of their starting conditions. We are not just learning — we are becoming architects of the future, equipped with tools we once could only imagine.

WHEN A SCHOLARSHIP BECOMES A BRIDGE BETWEEN CONTINENTS. RWANDA

I am from Rwanda. I studied physics at a university in Kigali. In our country, education is developing rapidly, and more girls are choosing STEM fields. However, opportunities remain limited: a shortage of specialized laboratories, restricted access to equipment, and few programs in nuclear technologies. We studied theory, but gaining practical experience was difficult.

I learned about the IAEA Marie Skłodowska-Curie Fellowship Programme from a lecturer. For me, it seemed like a once-in-a-lifetime opportunity: studying abroad, access to modern laboratories, and working with international experts. Most importantly, it offered a chance to go beyond the limits of the local education system. When I applied, I was not sure I would succeed. Competition was high, and students from developing countries often have less experience.

After receiving the scholarship, I went to study at a partner university. For the first time, I worked with modern equipment, participated in a research project, and saw how the “science — industry — education” ecosystem operates. The program provided not only knowledge but also an environment: access to scientific publications, regular seminars, and an international professional community. I realized that the difference between students from different countries is not in ability but in access to opportunities.

After completing the program, I returned to Rwanda. I now work in an educational project and contribute to the development of STEM opportunities for girls: organizing meetings with school students, speaking about careers in science, and helping them prepare for international programs. For me, this is essential: access to knowledge should not depend on the country of birth.

Rwanda is an example of a country where demand for education is growing faster than infrastructure. In such conditions, equal access is ensured through international educational programs, targeted initiatives for women in science, and mechanisms of academic mobility. These are what make it possible to overcome the limitations of local systems — and bring knowledge back to the country.

WHEN ACCESS TO SCHOOL DOES NOT MEAN ACCESS TO EDUCATION. UGANDA

I grew up in a rural area in eastern Uganda. I attended a public school — formally, education was free under the Universal Primary Education program. But in practice, “access to school” did not mean access to quality knowledge. Our class had more than 70 students. There were not enough textbooks — one for several students. Sometimes lessons were canceled because there was no teacher or one teacher had to cover multiple classes. Subjects like mathematics and science were

especially difficult. We simply did not receive a sufficient foundation. The turning point came when an additional education program was introduced at our school with support from UNICEF and local partners. We began having after-school sessions: basic mathematics, reading comprehension, and introductory digital literacy. For the first time, learning became more individualized. We were divided into small groups — and it turned out that many of us had simply been “lost” in the larger system, even though we were capable of learning. For the first time, I felt that I could understand the material, not just memorize it.

Later, our school received tablets with preloaded educational content, since stable internet access was unavailable. We used them according to a schedule: completing interactive tasks, reviewing topics at our own pace, and revisiting difficult concepts. Teachers also received additional training on how to work with new learning formats. I learned that similar programs were being implemented in different regions of the country, where schools are overcrowded and resources are limited.

Two years later, I passed my final exams better than expected. I enrolled in a teacher training college — and this became a conscious choice. Because I realized that the problem is not only infrastructure. It is how learning itself is organized. Now, during my teaching practice, I see the same children — in large classes, with different levels of preparation and limited resources. But now I know that even in these conditions, change is possible if there is access to methods, materials, and support.

Uganda is an example of a country where formal access to education has largely been achieved. But real equality in access to knowledge requires reducing class overcrowding, training teachers, implementing supplementary programs, and using offline and digital solutions in conditions of limited infrastructure.

WHEN A SHORT VISIT CHANGES AN EDUCATIONAL TRAJECTORY. ETHIOPIA

I am from Ethiopia. I studied engineering in Addis Ababa. At university, we had strong theoretical training but limited access to modern technologies and equipment. We knew about the nuclear sector mainly from lectures. How it works in practice was unclear.

I learned about the IAEA Lise Meitner Programme by chance. It is not long-term study but technical visits: an opportunity to spend several weeks in leading scientific and industrial centers and see how the sector operates. At first, I thought it was impossible to learn much in such a short time. Still, I applied out of curiosity.

As part of the program, I joined a technical tour in a partner country. We visited a research center, university laboratories, and facilities where nuclear technologies are applied in energy and medicine. What mattered most was not the volume of information but access to real equipment, to specialists working in the field, and to discussions of practical tasks. For the first time, I saw how textbook knowledge becomes real solutions: how system parameters are calculated, how safety standards are implemented, and how engineers, researchers, and operators interact.

After returning, I reconsidered my educational path. I began to study applied disciplines more deeply, look for internships, and participate in research projects. More importantly, I started sharing this experience with other students — explaining what the industry looks like beyond textbooks. Because the main barrier is not only resources but also the lack of awareness of existing opportunities.

For countries with developing educational infrastructure, such as Ethiopia, equal access to knowledge does not always mean long-term study abroad. Sometimes it is enabled by short but well-designed formats: technical visits, direct exposure to practice, and integration into international professional communities. Even a few weeks can reduce a gap built over years — if they provide access to what was previously unreachable.

WHEN STUDYING ABROAD BECOMES AN INVESTMENT IN YOUR COUNTRY. SOUTH AFRICA

I grew up in Pretoria and had been interested in physics since childhood, but opportunities for advanced study in the nuclear field were limited. When I learned about the Russian government scholarship quota for studying at National Research Nuclear University MEPhI, it seemed like an opportunity I could not miss.

Moving to Moscow was a cultural shock. I lived in a dormitory on Kashirskoye Highway — it was the first time I had been away from home for a long period. Everything was new: the language, the pace of life, the climate. Especially the winter. I saw snow for the first time and did not immediately know how to relate to it. At first, it was simply cold; later, unexpectedly beautiful. Food was also an adjustment. Some dishes felt unfamiliar, but over time I found those I liked — simple hot meals after a cold day became something important, even comforting.

At the university, I received what I had previously lacked: systematic engineering training, access to laboratories, and an understanding of how the nuclear industry operates in practice. Particularly valuable was learning from instructors who had worked in the industry themselves. They explained not only "how" but also "why" certain decisions are made. Gradually, I began to feel that I was not just studying but becoming part of a professional community.

After completing my studies, I decided to return to South Africa. Today, I work at the SAFARI-1 research reactor. Every day, I see how the knowledge gained abroad is applied here: in research tasks, in training specialists, and in maintaining safe reactor operations. Sometimes I think back to Moscow — the dormitory, the long winters, the first difficult exams. At the time, it felt like just a stage of education. Now I understand it was more than that.

Stories like mine show that equal access to education is not only about national systems. It is about international educational opportunities, academic mobility, and the transfer of knowledge back into national systems. When a student gains access to a strong educational environment and returns home, it contributes not only to their career but also to the development of the industry in their country.

THOUSANDS OF KILOMETERS TO A REACTOR: HOW A VIRTUAL LABORATORY ERASED BORDERS

I am a student at a small university in Latin America. We were all passionate about nuclear physics, but our reality consisted of slightly outdated textbooks and simulations on fairly basic computers. Our "hands-on experience" with real equipment meant looking at images. It seemed unfair that somewhere students could work in laboratories with research reactors, while for us it remained something from the realm of science fiction. The monopoly on knowledge and access to technology felt tangible: we were on the periphery of the scientific world.

For my thesis in materials science, I needed to model the behavior of a material in a reactor core. But how could I do that if I had never even seen a research reactor and had no access to modern simulation software? The task seemed impossible. I risked producing a purely theoretical, "paper-based" study with little practical relevance.

My supervisor, who had once trained abroad, learned about a new initiative — a "Virtual Research Reactor Laboratory." It was a platform providing access to remote experimental facilities and simulators. We applied. After selection, I completed an intensive online course on safety and system operation. Then came the day of the "experiment." At 3 a.m. my time, sitting in my university's computer lab in Santiago, I connected via a secure channel to the control interface of a research reactor — on another continent. I could set parameters in real time, observe telemetry, and operate the experimental setup. It was remarkable. I completed all calculations, gathered data for my thesis, and, most importantly, understood the processes not abstractly but in a tangible — albeit digital — way.

My thesis received top marks and was recognized at a national competition. But the main outcome was the disappearance of a psychological barrier. I proved to myself that distance and the level of infrastructure in my country should not limit an ambitious researcher. I am now pursuing a master's degree and helping adapt materials from this virtual laboratory for Spanish-speaking students. Equal access does not mean giving everyone a reactor. It means ensuring that every talented person has a key to knowledge, wherever they are.

FROM THE CREATORS OF THE DECLARATION

Shifa Jamadar, India

Youth Ambassador, National Youth convenor of Art of Giving Foundation

The Declaration clearly showed that young people are already involved in shaping the nuclear future through cooperation, knowledge exchange, and collaboration between specialists from different countries.

I don't expect to "grow up" into the nuclear industry: I'm already in it. The future of energy requires a willingness to take responsibility and work with change — and this is what is enshrined in the principles of the Declaration.

Matheus Pereira, Brazil

Student, Ambassador of Nuclear Education

Thanks to the Declaration, I built international and national contacts, which helped create the Civil Committee for the Protection of the Brazilian Nuclear Program.

The principle of "nuclear science at the service of humanity" is particularly important in the work of the committee. Today, experts from different regions of Brazil have already joined our work. Together, we discuss international experiences and adapt best practices to develop a sustainable and secure national program.

Rafael Cesori, Kenya

Former President, African Young Generation in Nuclear, lecturer at the Jomo

Kenyatta University of Agriculture and Technology

The Declaration shows what the future of nuclear energy should be based on: responsible leadership, youth participation, public trust, continuous learning and knowledge development, international cooperation, and an unwavering commitment to safety.

From my own experience, I have seen how such partnerships strengthen individual initiatives and allow them to reach a broader, including international, level.

Maxim Gavrilenko, Russia

Junior research assistant, The Russian Federal Nuclear Center — the All-Russian Scientific Research Institute of Experimental Physics (RFNC-VNIIEF)

The Youth Declaration is an attempt to "check the clock" and agree on the future of the industry based on the opinion of a new generation.

Its value lies in the fact that, with different views, it was possible to formulate a common set of principles. This is not a set of correct words but a consistent position.

Therefore, the Declaration is not just a text but a working basis. And its practical application is a logical continuation of this work.

03

PRINCIPLE 3

NUCLEAR SCIENCE AT SERVICE TO HUMANITY FOR A BETTER WORLD

The power of nuclear science and technology should be a force for humanity dedicated to solving the pressing challenges through the innovation in industry, progress in medicine, protection of the environment

A ROOM IN A CITY CLINIC. BELARUS

I am a mother of a schoolboy. We live in a small town, and my son is in the sixth grade. Savva loves sports, but one day he injured his arm badly during training. At first, it seemed like a simple bruise, but the pain did not go away.

At the clinic, we were referred for further examination. The doctor explained that a specialized scan was needed to determine whether there was a more serious issue. I remember hearing the term “radioisotope examination,” which initially caused some concern.

In reality, the procedure turned out to be quite straightforward. Savva underwent the scan, which allowed doctors to assess bone function and detect any hidden damage. Thanks to this, they quickly made a diagnosis and prescribed treatment. Within a few months, his arm fully recovered, and he returned to training.

I had rarely thought about how such technologies work. The word “nuclear” is usually associated with energy or something complex and distant from everyday life. But after this experience, I realized that these methods help doctors solve very practical problems — such as making timely diagnoses and helping a child return to normal life more quickly.

HOW THE DECLARATION HELPED CREATE A CIVIC COMMITTEE. BRAZIL

After we created the text of the Youth Declaration of Nuclear Cooperation, I couldn’t just leave it on the shelf.

The third principle, “nuclear science in the service of humanity,” became an instruction manual for me.

There are many stereotypes around nuclear energy in Brazil. People are afraid of what they don’t understand. And I thought: what if we gather those who care? Those who are ready to explain, defend, and debunk myths.

This is how the “Civil Committee for the Protection of the Brazilian Nuclear Program” was born. We started with a messenger conversation — about ten people, mostly young professionals from different regions. Then we held the first workshop in a small hall at the university. Twenty people came. Then there’s the webinar, which fifty people have already signed up for.

Now we are bringing together dozens of specialists. We discuss the world’s nuclear programs, look for best practices, write articles, and answer questions on social media. I have made sure that the declaration is not a document for show. It is a living instrument. When you start acting on its principles, it starts working for you.

Glory to the friendship of peoples in the nuclear industry. Long live the declaration!

FISH FOR THE MORNING MARKET. VIETNAM

I grew up in a fishing family in central Vietnam. My father owns several ponds where he raises fish for the local market. Every morning, he rides his motorbike to a nearby town to sell the catch.

When I entered university in Hanoi, I chose a field related to water resources. In my third year, I began an internship in a laboratory studying water quality in coastal areas.

There, I learned for the first time that scientists use isotope analysis to study water. These methods make it possible to determine where water in reservoirs comes from — whether from rivers, groundwater, or seawater that sometimes intrudes into coastal zones.

In one project, we studied water in aquaculture ponds in the Red River Delta. Scientists were trying to understand why fish in some ponds grew more slowly during the dry season.

The analysis showed that in those areas, more saline water was gradually entering the ponds. Based on this, researchers developed recommendations: where to build new ponds and how to adjust water supply during dry periods.

Last summer, I told my father about this. He listened carefully and said that many fishermen notice such changes but do not always understand their cause.

Sometimes scientific methods explain what people have observed for years. And then knowledge from the laboratory finds its way into the most ordinary ponds where fish are raised for the morning market.

TOMATOES FOR EXPORT. EGYPT

I work as an agronomist at a research center in the Nile Delta. Our team focuses on protecting agricultural crops — mainly vegetables and fruits grown by farmers for domestic consumption and export.

Several years ago, producers in our region faced a serious problem with pests — the Mediterranean fruit fly. These insects caused significant damage, particularly to tomatoes and citrus crops. Harvests were still produced, but the quality declined, and more shipments failed export inspections.

For Egypt, this is a sensitive issue. Agriculture is a key part of the economy, and many families in the Nile Delta depend on it.

At our center, we began applying the sterile insect technique. The principle is straightforward: pests are bred in the laboratory, then sterilized using radiation and released into the environment. When these insects mate with the wild population, the number of pests gradually decreases.

When I first heard about this technology, I found it difficult to believe it would work. But after a few seasons, the results became visible. Farmers began to notice less damage to their crops.

We often visit fields to explain how the program works. Sometimes conversations begin with caution — the word "radiation" can cause concern. But when people understand that it is not about treating the crops themselves but about controlling insect populations, attitudes change.

Recently, a farmer showed me his greenhouse and said that for the first time in several years, almost the entire tomato harvest could be exported.

Moments like this make it clear that nuclear technologies operate in places where they are not usually expected — not only in energy but also in agriculture, where harvests directly affect the well-being of many families.

A LONG DAY IN CAIRO. EGYPT

I am an oncologist working in a public hospital in Cairo. Our department receives patients not only from the capital but also from Upper Egypt, small towns, and villages. Some people travel almost a full day to get here.

When I first started working, diagnosing many tumors took a very long time. Patients had to undergo several examinations, sometimes in different clinics, and only then could we understand how to plan treatment.

Several years ago, the hospital began using more advanced radionuclide diagnostic methods. For us, this meant not only new equipment but also new procedures, staff training, and close cooperation with medical physicists.

The first months were quite intense. We tried to do everything as carefully as possible: checking protocols, discussing complex cases at multidisciplinary consultations, and getting used to the new workflow.

Gradually, we began to see the impact on patients. Diagnoses could be clarified faster, and treatment could start earlier. This is especially important for people who come from far away and cannot spend months traveling between clinics.

Sometimes after appointments, I step out onto the balcony of our building. From there, I can see the Nile and the bridges across the river, always crowded with traffic in the evening. The city is huge, noisy, and everything seems to move very quickly.

But inside the hospital, time feels different. Here, any technological change becomes visible first of all through people's lives — through how their path from the first examination to treatment changes.

RICE FIELDS AFTER THE RAIN. INDONESIA

I grew up on the island of Java, in a farming family. We have a small farm, mostly rice fields inherited from my grandfather. When I was a child, life was simple: the rainy season, planting rice, harvesting.

No one in my family had anything to do with science. When I entered university in Yogyakarta, I chose agricultural engineering. During my studies, I learned for the first time that nuclear technologies can be used not only in energy but also in agriculture — for example, to develop new plant varieties.

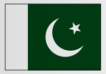
After graduation, I began working in a research group focused on improving rice varieties. We use radiation breeding methods: seeds are treated under controlled conditions, and then scientists observe what changes appear in the plants.

At first, it sounded unusual — the word "radiation" makes many people anxious. But in practice, this method has been used for decades and makes it possible to obtain varieties that better tolerate drought, disease, or saline soils.

Once, we were testing a new variety in an experimental field. That day, there had been a heavy tropical rain, and the field looked almost exactly like the fields near the village where I grew up.

I looked at those plants and thought about how strangely different worlds intersect. Technologies developed in scientific centers eventually reach the same rice fields where families like mine work.

Science may seem very distant to many people. But in moments like that, you understand that its results can become part of ordinary life — even on a small plot of land where rice grows after the rain.



PATIENTS NO LONGER TRAVEL ACROSS THE BORDER. PAKISTAN

I work as a physician in the nuclear medicine department of a large public hospital. I was trained as a radiologist, but several years ago I completed additional training in radionuclide diagnostics.

When I first began working, many patients with suspected cancer still traveled to other countries for examinations — most often to India or the Gulf states. This took weeks: paperwork, travel, waiting for results.

Gradually, the situation began to change. Our hospital installed a modern diagnostic system, and with the equipment came the need to train a team — doctors, medical physicists, and engineers.

I remember the first month after launch. We worked cautiously and slowly, carefully checking every procedure. Sometimes we discussed the same clinical case as an entire team, simply to be more confident.

Now the patient flow has increased significantly. People come to us from different regions of the country. Sometimes patients are surprised that complex diagnostic procedures can be done here, without traveling abroad.

For me, the most important change was not the new equipment but the fact that the hospital developed a team of specialists who know how to work together: doctors, physicists, and engineers.

A few months ago, an elderly patient came to an appointment with his son. They said they had previously planned to go to Dubai but now decided to try getting examined here first. When I heard that, I realized that the development of such technologies is gradually changing the healthcare system in the country — quietly and almost invisibly but very tangibly for people.

DAD, RADIOISOTOPES, AND RETURNING TO THE MACHINE TOOL. RUSSIA

My father worked as a toolmaker at a large factory in Izhevsk. He was diagnosed with an aggressive form of prostate cancer. The doctors said radiation therapy was an option, but with conventional treatment, nearby organs could be affected and side effects would be significant.

Then they proposed brachytherapy — a method in which microscopic radioactive "seeds" are placed directly into the tumor. They emit radiation gradually and destroy the cancer from within, while minimally affecting everything around it. Of course, everyone was frightened: "radiation inside the body" sounded terrifying. But the method worked.

My father tolerated the treatment relatively well and was able to return to the work he loved within six months.

Now he machines cartridge cases for competition ammunition and says, "They treated me like a precision mechanism. A targeted strike. That is what science means." For him, nuclear medicine is a concrete tool that saved his profession and his self-respect.

NUCLEAR ENERGY FOR THE ENVIRONMENT AND PEOPLE'S HEALTH. RUSSIA

I grew up in a city where snow turns gray within a day in winter. Coal means jobs for us — but also childhood asthma and constant smog. When I began saying that nuclear energy could be cleaner, people looked at me as if I were a traitor, "Are you against our people?"

But I am not against people. I am against the fact that we still have to choose between work and health.

What hurts most is that nuclear energy is discussed as a threat, while dirty air is treated as normal. That is wrong. But this injustice pushes me to keep studying and to prove that clean energy is not a theoretical issue for online debates but a question of survival for regions.

AN ENVIRONMENTAL STUDENT AND "MARKED" MOSQUITOES. RUSSIA

I am studying environmental science in Krasnodar.

For my thesis, I studied the migration of mosquito larvae carrying fever in the wetlands of the Kuban region. The old method — setting traps, counting, and making assumptions — was inaccurate.

My supervisor from an agricultural research institute proposed an almost detective-like technology: we used microscopic quantities of stable isotopes of rare-earth elements. They were used to "mark" a batch of larvae at a specific release site. Later, by capturing adult insects within a 20-kilometer radius, we could use a mass spectrometer to determine precisely: this mosquito is ours, from point A. The task was to prove how far they could spread. The process felt almost fantastic: we were literally tracing the fate of each insect. The result changed local treatment plans: money and pesticides are now used not everywhere but precisely in the highest-risk zones.

I saw how the "peaceful atom" helps protect nature — even from itself — by making disease control selective and scientifically justified.

NUCLEAR SCIENCE FOR HISTORIANS. RUSSIA

Last year, my friend Katya, an archaeologist, took me to an excavation in the Volga region. They were excavating a burial mound and found a grave with a beautiful copper buckle, but there were no clear indicators of the period — no coins, no characteristic ceramics.

Standard stylistic dating methods did not work. The task was to determine the age precisely in order to place the find within the region's historical context. My friend sent a microscopic fragment of birch bark found near the buckle to a laboratory that uses radiocarbon analysis.

The process felt almost magical: you hold an ancient object in your hands, but its age can only be determined through knowledge of the constancy of nuclear decay.

The result came a month later: the 5th century BCE, the Scythian period. This changed the understanding of trade routes in the area.

For Katya, nuclear physics is a key to the secrets of the past — a time machine powered by invisible particles.

NUCLEAR SCIENCE FOR SAFETY. RUSSIA

My neighbor is a flight safety engineer at an airline. He has no direct connection to the nuclear industry, but his work depends on it every day. His task is to inspect critical engine and landing gear components for microcracks invisible to the eye.

Previously, this was complex, labor-intensive work involving chemicals. Now they use X-ray and gamma-ray flaw detectors. The principle is the same as in medicine: imaging what cannot be seen from the outside.

He once told me how he noticed a barely visible shadow in a turbine blade image — a flaw that could have led to a disaster. The part was replaced. His daily work consists of meticulous analysis of these “X-rays.” The result is thousands of passengers who have no idea that their safety is ensured, in part, by technologies born from nuclear science.

For him, it is simply a reliable, highly precise tool in his professional arsenal.

MY SISTER AND IODINE-131. RUSSIA

My sister was diagnosed with thyroid cancer at the age of 25.

The tumor was removed, but to eliminate any remaining cells, she was prescribed radioiodine therapy. The principle is that the thyroid gland — and thyroid cancer cells — actively absorb iodine. If the patient receives a radioactive isotope of iodine, iodine-131, it accumulates exactly there and destroys the remaining tumor cells from within.

The situation was frightening: she was placed in a special room with thick walls because, for several days, she herself became a source of radiation. We could only see her through lead glass. The task was not only to survive the illness but also the psychological pressure of isolation.

She is a lawyer by education and forced herself to study the principle of the method in order to stop being afraid. She learned that the half-life is short and that this is a targeted weapon. Six months later, follow-up tests showed complete remission. Now she says, “They treated me from the inside with a smart bullet. Was it frightening? Incredibly. But it works.”

A LASER FOR CLEAN ENERGY. RUSSIA

I am a young physicist working in the closed city of Sarov. My specialty is laser physics, and I have access to one of the most powerful and grandiose laser installations in the world. My research is related to the creation of such complexes. Recently, while preparing a report for the international conference on laser physics in St. Petersburg, I made an unexpected discovery for myself. The parameters of the laser system that our scientific group is creating fully meet the requirements for industrial laser fusion plants. And this is a direct path to the energy source of the future: much more powerful and environmentally friendly than the current nuclear power plants with fissile uranium.

Fusion-fueled nuclear power plants will produce orders of magnitude less radioactive waste than modern uranium-fueled nuclear power plants, which, of course, are already one of the cleanest ways to generate energy today.

At that moment, I realized that my activities were directly related to the UN Sustainable Development Goals such as “affordable and clean energy” and “responsible consumption and production,” which contributed to combating climate change and preserving marine and terrestrial ecosystems. Modern nuclear power plants with fission of uranium nuclei have been at the service of mankind for a better world for decades, and nuclear power plants with thermonuclear fusion, I am sure, will seize this initiative in a few decades.

It’s cool to feel involved in such global goals. So now I’m going to the conference even more energized!

FROM THE CREATORS OF THE DECLARATION

Mark Dmitriev, Russia

The chief specialist of the department of sales of auxiliary equipment and service. Rosatom Machine Building

The Declaration is a fixed direction of development formed by the international community of young professionals.

The fact that its provisions resonate in different countries shows that there is a common understanding: moving forward is possible through dialogue, ideas, and practical actions.

04

PRINCIPLE 4

YOUTH LEADERSHIP EMPOWERMENT

Young people are essential architects of the nuclear future. Their power lies through the six pillars of action (education, training, public participation, public awareness, access to information, international cooperation) and multi-generational knowledge exchange to ensure a safer and sustainable future

FROM ENVIRONMENTAL PREFECT TO THE GLOBAL STAGE. KENYA

My name is Raphael. My first leadership was not in a boardroom but in an elementary school on Mount Elgon, Western Kenya. I was an environmental prefect. He made sure that classmates did not litter, reminded them about watering plants. It's funny, isn't it? But it was then that I realized that responsibility for the common space is not a position but a habit. In high school, I became the head of a Science club. We conducted experiments with improvised materials, figured out why the sky is blue, and argued about how the atom works. At the same time, I firmly decided that Africa should not be a passive consumer of nuclear technology. We have to build them ourselves.

Then there was the university, where I became chairman of the student association and founded the Chemists Club. A year later, Kenyan Young Generation in Nuclear, where I rose to vice president. And then the continent: the African Young Generation in Nuclear, where I was first Secretary General, then president.

The most important turn was the IAEA internship in Poland. There I saw how the knowledge gained in one country can work for the benefit of the entire planet. Two years later, I was selected in the top 100 young nuclear experts to participate in the World Atomic Week in Moscow.

We have written a Global Youth Nuclear Declaration. I stood on the stage and thought: this is it. That's the moment when leadership ceases to be local. Now, looking back at the path from school prefect to IYNC vice president, I realize that youth leadership is not about "someday later." It's today. Every conversation, every project, every minute when you help a junior colleague figure out a complex scheme, you are already the architect of the nuclear future.

HOW THE NEGOTIATION EXPERIENCE HELPED TO WRITE THE DECLARATION. THE REPUBLIC OF KOREA

My name is Emma and I am a graduate student at the Climate and Environmental Modeling Laboratory in Seoul. But the most important stage of my life was not at the microscope but at the negotiating table. I was a negotiator for the Republic of Korea on Article 12 of the Paris Agreement, "Climate Empowerment Activities." It's about education, training, access to information, and international cooperation.

When I joined the team that wrote the Youth Declaration on Nuclear Cooperation, I immediately recognized these six elements. They work everywhere: in the climate, in the atom, in any complex field.

I suggested embedding them in the fourth principle, "Empowering youth leadership." Not symbolically but structurally. So that a young people do not just "participate for show" but have the real leverage: access to information, the opportunity to study, support in mentoring, and the right to vote. My amendment was accepted. For me, this was a confirmation: young people should not wait until they are given the floor. She should come up with a ready-made solution and say, "This is how it should work." Then she will be heard.

I am currently a member of the ECOS-2026 steering committee. And every time I start a new discussion, I remember that declaration. Leadership is not a status. Leadership is when your ideas make the system better.

A HUMANITIES STUDENT AT "NUCLEAR" DEBATES. RUSSIA

I study international relations at a top university. My family is far removed from technology. My university became a platform for youth discussions on cooperation in technology, including energy.

At the very first session, I encountered aggressive dominance from engineering students. Any question about social consequences, the geopolitics of technology transfer, or ethics was dismissed as "irrelevant" and "incompetent." My voice as a future specialist in international law and communications carried no weight.

I prepared for the next session not by studying reactors but by studying the IAEA Statute and examples of how political decisions had influenced the development of nuclear programs. During the debate on access to technologies, I spoke from the perspective of non-proliferation principles, using the language of mandates and resolutions.

People began to perceive me as an expert in my own niche. The engineering students started consulting me on issues of international law. The organizers added a separate committee on legal and social aspects to the program.

Now I know for certain that youth leadership in the nuclear field is not only about physicists. Empowerment requires creating a space where interdisciplinary contributions are valued — and being ready to defend your own expertise.

YOUTH LEADERSHIP. RUSSIA

I am a project manager at a closed enterprise. Once, I proposed an initiative. The response was, "The idea is good, but let's do it later — it's too early for you."

Later, I saw the same idea implemented without me. It was a moment of real anger. But it was also a moment of decision: no longer to hand over my ideas "for later" but to ask questions, verify things, seek confirmation, and think about how to open the right doors. Leadership is not about age. It is about responsibility for what you propose and the willingness to defend it.

TRUST IS AT THE CORE OF EVERYTHING. RUSSIA

I graduated from university three years ago. It was frightening to start. During my first year, everything was explained to me. In the second year, every step I took was checked.

Then my manager said, “Here is the area. Here are the deadlines. Decide.” It was frightening. Truly frightening.

I made mistakes. Once, quite seriously. But I was not “taken apart”; the mistake was.

That was when I understood that leadership is not about being the smartest person in the room. It is about being trusted with consequences.

AN ENTHUSIAST FROM A SINGLE-INDUSTRY TOWN. RUSSIA

I live in a small town with one city-forming enterprise. I work there as well. In my free time, I am a self-taught robotics enthusiast.

In our town, young people have two paths after school: leave or go to work at the plant. There is no environment for developing modern skills such as programming or 3D modeling, even though those skills are needed at the same plant, especially in advanced units.

Then I learned about a program supporting social initiatives. I wrote a project proposal to create a youth engineering club, “Atom-Kvant,” based at the town library. The project relied on community involvement: I invited not only veterans of the enterprise as mentors but also IT specialists working remotely.

As a result, I received a microgrant for a 3D printer and robotics kits. Now, together with the students, we create models of equipment for the plant’s training purposes.

A WOMAN IN A “NON-FEMALE” PROFESSION. RUSSIA

I studied welding at college. I followed in the footsteps of my father, who works at Atommash. The workshop and the vocational school are both strongly masculine environments, where a female welder constantly has to prove that she is not there just “for the sake of appearances.”

I want to grow professionally but I feel I am not taken seriously. New welding methods under X-ray control for reactor vessels are considered the domain of “experienced men.” I am assigned simple operations.

Recently, I learned about the corporate professional skills championship, AtomSkills. I decided to participate despite the mockery from some colleagues.

See you at the championship.

YOU NEED TO SPEAK ABOUT YOUR ACHIEVEMENTS. RUSSIA

I am a postgraduate student at MSU Sarov. My colleagues and I do not simply sit in laboratories. We have opportunities to present our AI solutions at the IAEA and apply for grants through production improvement tracks.

Support for “avanprojects” and youth initiatives — such as the MSU Sarov project on automatic mirror alignment using neural networks — shows that youth projects are often practical and deserve funding. There are more and more examples like this.

However, we understand that many “quiet victories” of young scientists still remain in the shadows. Implementing this principle requires that every success — from a new neural network for a laser to the optimization of a cooling system — be voiced and recognized. And I understand what actions I personally need to take for that to happen.

EMPOWERING YOUTH LEADERSHIP. RUSSIA

I was born and grew up in Obninsk, but for a long time the nuclear industry existed somewhere in the background of city life for me. In our city, that is normal: you know there are research institutes nearby, that the world’s first nuclear power plant was once built here, but it does not necessarily become part of your personal story.

I studied at the Faculty of Foreign Languages and worked part-time as a volunteer at city events. One day, a teacher wrote in our group chat: the organizers of the international forum Obninsk NEW urgently needed several students who could help international participants with navigation and translation.

Honestly, I signed up mostly for practical reasons — I wanted to practice my English. In the morning, we received badges and were assigned to different venues. I was assigned to a session on training young specialists for the nuclear industry. I sat by the wall, helped participants find the right rooms, and occasionally translated short questions. Gradually, I began listening to the discussion. Young engineers from different countries were speaking: some talked about working at research facilities, others about how universities cooperate with industry.

At one point, the moderator invited questions from the audience. Several people spoke, and then there was a pause. One of the international participants sitting next to me quietly asked whether I could help him formulate his question in Russian.

I passed the microphone and translated his words. He spoke about how young specialists often want to take part in international projects but do not always know where to begin.

After the session, several other student volunteers approached me, and we continued discussing the topic for a long time. One of the organizers told us about youth programs and internships we had simply not known about before.

That forum unexpectedly changed my view of the city where I grew up. I came as a volunteer interpreter and left with the feeling that young people can be not only listeners but full participants in a professional conversation. It turns out that sometimes it is enough to be in the right place and ask one question to feel part of a larger community.

LEADERSHIP MEANS "TAKE IT AND DO IT"

I do not particularly believe in words like "leader" or "architect of the future." I simply run a club for school students. Once a week. For free.

I show experiments and explain that physics is not something to be afraid of. Sometimes five people come. Sometimes one. If at least one of them stops being afraid of science, then I have done enough.

YOUNG SPECIALIST FOR THE INCLUSION OF YOUTH IN DECISION-MAKING

When the information is closed, you are the performer. When it's open, you're a participant. I can't even give you one specific example. There are a lot of them every day. I have seen how the behavior of young professionals changes when they are told why a decision has been made, rather than just what to do. They begin to think more broadly, to argue, to propose. Yes, it is more difficult for management. But leadership doesn't grow otherwise.

WHEN FEAR BECOMES A POINT OF GROWTH

My name is Daniel, I am a young specialist in the nuclear industry and a participant in the International Youth Nuclear Congress. The decision to submit a paper to the conference was not obvious to me. I knew it was hard for me to perform. Public speaking has always been difficult for me. It was a conscious "stretching" — going

beyond what I feel confident in. To be honest, somewhere deep down I hoped that my report would not be taken away.

When the confirmation email arrived, my first thought was, "We can't back down now." From that moment on, it started! I started preparing systematically: I redesigned the structure several times, simplified the complex parts, and rehearsed the speech ten times. But the excitement didn't go away. I kept wondering if it was interesting enough, if it was accurate enough, if I could get the message across.

On the day of the performance, I was still worried. But at some point there was a switch. I realized that the goal is not to "perform perfectly." The task is to convey the meaning. When I started talking, it became easier. The audience was listening. Reacted. She asked questions. It wasn't an exam. It was a conversation. The performance went better than I expected. But more important was what happened after. I felt confident in my words, able to keep the audience's attention, and willing to engage in professional dialogue.

This experience was a turning point for me. I realized that fear does not disappear before the action but disappears after it. After speaking at an international conference, I no longer have anything to worry about in terms of public speaking and leadership skills. Not because everything has become perfect. But because I know I can.

For me, youth leadership began with a willingness to go beyond the usual, albeit through doubts, through uncertainty, through internal resistance. But it was at these points that I was able to develop the ability to take the floor, take responsibility, and become part of the professional community on an equal footing.

WHEN YOU ENTER THE PLACE WHERE IT ALL STARTED. VIETNAM

I came to Obninsk from Vietnam to attend the Obninsk Tech winter school. We had a strong theoretical base at the university. We knew the formulas, principles, and processes. But much remained abstract. In Obninsk, this began to change.

The program was intensive: lectures, laboratory classes, work in international teams, discussion of real cases. But the strongest moment happened outside the audience.

It was a technical tour for the Obninsk nuclear power plant, the world's first nuclear power plant. Today it no longer works and functions as a museum. But once inside, you hardly feel it. It looks like the system has just stopped and can be started again at any time.

We walked through the premises where the first decisions were once made, the first processes were launched, and the very logic of the industry was being formed. This is not a modern facility. There are no digital panels, there is no automation in the usual way. But that's exactly why it becomes clear how fundamental those decisions were. I caught myself thinking: everything we are studying today was first invented and tested here at some point. One of the escorts said a simple thing, “You see the beginning. Your task is to understand what has been done and not lose it by moving on.” After that, the perception of learning changed. I stopped perceiving knowledge as something “ready-made.” It became clear that every technology is a search result, every system is an accumulated experience, and every new generation does not start from scratch.

This visit became for me a point where the past came together as a foundation, the present as a system of knowledge, and the future as a zone of responsibility. And, perhaps, this is what gives the most accurate understanding: development is not moving forward at any cost. It is the ability to continue without losing the meaning of what has already been created.

FROM THE CREATORS OF THE DECLARATION

Okan Yildiz, Turkey

Secretary General of the Turkish Nuclear Industry Association

The declaration sets a goal, but the principles of cooperation, trust and mutual assistance are the only map by which we will reach it.

Without cooperation, trust, and mutual assistance, any document will remain just words on paper: trust eliminates hidden agendas, cooperation makes technology transparent, and mutual assistance insures against accidents and crises. And if we lose this map, even the clearest target will turn to dust.

Heba Elkomey, Egypt

International Coordinator of CMR Egypt (Capital Modern Research — Egypt)

The importance of creating a Declaration is to demonstrate unity across borders. By introducing it, we have sent a clear message: the new generation is ready to overcome differences and work together for common global goals. This is especially important in the nuclear field, where the cost of misunderstanding can be high.

The Declaration reflects a far-sighted vision of cooperation: it emphasizes not only security and security but also equity and sustainability, principles that are becoming increasingly important for global development.

For me, participating in this initiative has been an important experience: it has strengthened my sense of responsibility, deepened my understanding of the complexity of nuclear cooperation, and confirmed the value of collective action and inclusive global engagement.

05

PRINCIPLE 5

CONTINUOUS DEVELOPMENT AND FUTURE FOCUS

The nuclear field can only progress through continuous renewal of knowledge and intentional succession strategy transferring

AI, SUBSIDENCE OF THE GROUND AND ONE DIFFICULT PROJECT. INDONESIA

I am a geospatial researcher from Indonesia, working at the intersection of environmental monitoring and spatial analysis. In my work, I have been involved in projects related to land management, where spatial data plays a critical role in supporting decision-making.

One experience that stayed with me was when I was part of a team collaborating with the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency on land conflict analysis. At that time, there was a strong expectation to develop an AI-based tool that could help identify and support the resolution of overlapping land claims.

However, the reality we faced was far from ideal. The available data were limited, fragmented, and not always consistent. During our discussions, it became clear that there was a gap between expectations of what AI could deliver and the actual conditions required to make it reliable. We spent a considerable amount of time aligning our understanding. One conclusion gradually emerged: an AI-based system does not begin at a perfect level. It is not something that can immediately produce precise and comprehensive results, especially in complex contexts such as land conflict. Instead, it must be built progressively — through iterative development, continuous validation, and the gradual accumulation of training data.

This realization shifted the conversation. Rather than aiming for a fully mature system from the outset, we focused on building a foundation — something that could evolve over time as more data became available and as the model was refined.

For me, this experience highlighted an important principle: technological development is inseparable from the process of learning. Tools improve as knowledge grows, and knowledge grows through practice, feedback, and collaboration between institutions and individuals.

Equally important is the transfer of understanding. The discussions we had were not only about building a tool but also about aligning perspectives — between technical teams and policymakers, between expectations and limitations. In this process, knowledge was exchanged, adapted, and carried forward.

This is how continuity is formed. Not through perfect solutions from the beginning but through systems that are allowed to develop, improve, and be passed on. In fields where decisions have long-term implications, such as land management, this continuous development is not optional — it is essential.

WHEN CONTINUITY BECOMES PART OF THE SYSTEM, NOT A STANDALONE INITIATIVE. CHINA

I am an engineer at a nuclear power plant in China. The industry in the country is developing rapidly: new power units are being commissioned, the technological base is expanding, and the demand for qualified personnel is growing. At the same time, a significant share of key specialists are highly experienced engineers who established working practices over previous decades.

The central question facing the industry is how to ensure the transfer of critically important knowledge and skills from experienced specialists to the younger generation without any loss of quality. This is not only about formal knowledge but also about engineering culture, practical decision-making experience, and an understanding of risks and responsibility.

In the organization where I work, a systematic approach to continuity has been established. Mentorship is in place: each young specialist is paired with an experienced engineer. Learning takes place through real work, with a gradual expansion of responsibility. Informal knowledge is actively transferred: there are regular reviews of practical cases, including complex and non-standard situations. Particular attention is paid to the logic of decision-making. A system of rotation and practical assignments has been implemented: young employees move across different areas of work to develop a holistic understanding of the system. Experience is captured: key procedures and decisions are documented, and knowledge bases are created for future generations.

Such a system helps reduce the gap between generations of specialists, accelerates the development of new personnel, and maintains the stability of processes during team renewal.

Working with mentors, I have become convinced that professional growth is impossible without respect for accumulated experience. Knowledge in this industry does not begin with us — we continue what was created before us.

The Chinese approach demonstrates that continuous development is ensured through managed continuity. The transfer of knowledge between generations is not a one-time task but an ongoing process embedded in the management system. This is what makes it possible to preserve and develop critical competencies over the long term.

UNIQUE COMPETENCIES. RUSSIA

Within our team working on the XCELS project, there exists a unique phenomenon that, despite our entire arsenal of high-precision diagnostic systems, we still cannot fully formalize.

It concerns one of our leading specialists, who has decades of empirical experience in high-intensity laser physics.

He is able, with remarkable accuracy, to identify parametric deviations in the operation of our 600-petawatt system, which generates pulses with a duration of 17 femtoseconds.

While our instruments may display nominal values, he approaches the system and states, “There is an anomaly in the dynamics here.” When we ask, “In which subsystem? What readings?” he may respond, “Based on barely perceptible acoustic resonances in the optical path, possibly related to microscopic deformations in the DKDP crystals or suboptimal phase synchronization in the chirped pulse amplification (CPA) system.”

This is not a metaphor. His intuitive calibration, grounded in a profound understanding of physical processes and extremely subtle sensory perception, allows him to diagnose deviations that our automated systems may overlook or interpret as acceptable fluctuations. We, with our computer models and spectrometers, sometimes only confirm his conclusions after the fact.

And each time we see how our talented graduate student, immerses himself in the details of the project while presenting it to the scientific community, a natural question arises about the critical importance of preserving and transferring this unique expert knowledge.

Because if this specialist — this living carrier of invaluable experience — were ever to leave the project, we would risk losing not just a person but an entire library of tacit competencies that are the cornerstone for achieving the peak parameters of XCELS and for the further development of attosecond physics and quantum electrodynamics.

THE SHADOW OF CHERNOBYL AND THE LIGHT OF KNOWLEDGE: HOW I FOUND ANSWERS IN MY GRANDFATHER’S ARCHIVE. RUSSIA

I was born in 1999 into a family of nuclear professionals in a closed city. My grandfather built nuclear power plants; my father works at one. For me, nuclear energy is home, livelihood, and stability.

But at school, when we studied Chernobyl, people would look at me askance, “Your grandfather probably built disasters like that?” The internet was full of a chaotic mix of myths. I had no answers. I knew it wasn’t true, but I had no arguments beyond “my dad is a good person.” Information about the industry in the public domain was either dry textbook material or outright sensationalism. The continuity of knowledge was under threat — not at the level of technology but at the level of public understanding. I needed to get to the essence. For myself.

I needed to understand what had really happened back then, and how those bitter lessons had been transformed into the ultra-reliable system in which my father works today. I was not looking for official reports — I needed living memory and engineering logic.

So I went to my grandfather. He was already over eighty. I was afraid I might upset him, but it turned out differently. Hearing my question, he silently got up and brought back an old, worn album. It was not photographs but sheets filled with calculations, graphs, and notes in the margins. “Look,” he said, “This was not the mistake of a single person. It was a systemic failure in safety culture. Back then, we thought of the reactor like a steam locomotive: turn the handle and it goes faster. A flawed mental model.” We sat together all evening. He drew diagrams of RBMK and VVER reactors, explaining the differences in physical processes. He showed me his internal memos from the early 1990s, where he and his colleagues proposed new inspection protocols. “After Chernobyl,” my grandfather said, “a new kind of belief system was born. A belief in ‘foolproofing’ and in almost paranoid control. Each new plant is an answer to the mistakes of the previous one.”

I began to systematize his stories. Then I went to the station’s technical library and found old training manuals for personnel retraining. I saw the evolution: how simple instructions became complex algorithms, how double and triple checks were introduced, how full-scale simulators came into use. It was a process of continuous development through learning from experience.

I did not become an anti-propagandist. Instead, I created a series of posts on my blog titled “The Engineering Anatomy of Safety.” Without pathos, in clear and accessible language, using my grandfather’s diagrams and scans of old documents, I showed how a specific fatal error from 1986 is technically impossible today due to dozens of changes in design and culture. The key conclusion: continuous development is not only about new reactors. It is, first and foremost, about the continuous transmission of lessons from the past. My grandfather gave me more than knowledge. He passed on a “cultural code” of safety. And now it is my responsibility to translate that code into the language of my generation.

THE FIRST INSPECTION ROUND. RUSSIA

My first day of work at the plant began with an equipment inspection round. I was accompanied by a senior engineer who has worked there for nearly thirty years.

He knew every site, every staircase, and seemingly every sound made by the machinery. At one point, he stopped near a piece of equipment and said, “Listen.”

I did not hear anything unusual. He smiled and explained that, over time, you begin to notice when the equipment sounds slightly different.

In the months that followed, I realized that much of the knowledge at the plant is transmitted in exactly this way — not only through instructions but through daily practice.

Sometimes it looks like an ordinary conversation during a routine round, but it is precisely through such conversations that professional experience is built.

OLD RECORDS IN THE LIBRARY. RUSSIA

I am a master's student at one of the technical universities in Saint Petersburg. My research focuses on materials used in energy equipment. The work is largely theoretical: it involves a great deal of calculations, modeling, and reading older scientific publications.

One day, my academic supervisor suggested that I look through reports stored in the university library. Many of them had been written back in the Soviet era — they were typewritten documents with tables and diagrams.

At first, I was skeptical. It seemed that modern research should rely entirely on new data and contemporary methods.

But gradually, I began to notice that many of the ideas and approaches discussed today had already been examined in detail decades ago. Sometimes, old reports contain very precise observations that have simply been forgotten over time.

One such document helped me understand the results of my own experiment. It described a similar situation, and the authors provided a detailed explanation of why the material behaved the way it did.

Since then, I have started to see scientific archives differently. Science advances not only through new discoveries but also through the preservation and transmission of knowledge.

Sometimes, all it takes is opening an old folder in a library to continue a conversation that began many years ago.

A VISIT TO A TOKAMAK. RUSSIA

I am a third-year student in the physics faculty in Saint Petersburg.

Once, our professor managed to arrange a visit to a research institute where plasma physics and nuclear fusion are studied. Before that, I had only seen a tokamak in textbook illustrations.

In the laboratory, everything turned out to be very different from what I had expected. A massive metal installation, a complex system of magnets, cables, and diagnostic equipment. But what struck me most was something else — the number of people from different generations working on the project.

Our "guide" was an engineer who had joined the institute back in the 1990s. He explained that many of the operating principles of the facility had been developed even earlier, and that modern teams continue to refine and test these ideas.

At one point, he showed us one of the older experimental stands and said that some of the experiments conducted there had begun long before many of us were born.

For me, this was an unexpected realization. Fusion energy is often perceived as a technology of the future, but in reality it is built on a very long history of research involving several generations of scientists and engineers, with each new generation continuing what the previous ones began.

As we were returning to the university, I caught myself thinking that, for the first time, I truly felt the scale of scientific work: when results may only emerge after decades, but each generation contributes something of its own.

WHY I TALK ABOUT NUCLEAR ENERGY. RUSSIA

I teach physics at a regular secondary school. The curriculum includes a section on nuclear reactions but it used to take up only a few lessons. Several years ago, I completed a professional development course for teachers. It covered modern technologies and how the energy sector is evolving.

After that, I began to devote more attention to this topic in my classes. Students usually ask very practical questions — about safety, about waste, about the future of energy. More often than not, the discussion goes beyond the textbook. And it seems to me that it is precisely these kinds of conversations that help cultivate an interest in science.

FRIDAY SEMINARS. RUSSIA

When I started working at a research center, one tradition immediately caught my attention. Every Friday, the laboratory holds short internal seminars.

Both junior staff and experienced researchers can present. Sometimes the talks are highly complex; at other times, they are quite simple. But the main value of these meetings lies in the fact that people discuss current tasks and share what they have learned over the course of the week. Over time, you begin to understand that scientific progress does not happen only through large-scale projects. It often emerges through these regular conversations among colleagues.

RADIOECOLOGY. RUSSIA

I work in a natural park, where I monitor the state of ecosystems. A few years ago, we began collaborating with a research group studying radioecology. They conduct studies to understand how various elements move through soil and water.

For me, this was a new field. But it turned out that such research helps to better understand natural processes. Sometimes the specialists come to us for fieldwork. Together, we collect water and soil samples. For me, this is a rare case where scientific research is directly connected to the place where you work every day.

NIKOLAI PETROVICH'S LAST SHIFT. RUSSIA

When I first arrived at the plant at the age of twenty-two, I met Nikolai Petrovich. By that time, he had been working at the plant longer than many employees had been alive — almost forty years. He had joined as a young engineer when the equipment was only just being commissioned. Now, he is one of those people others turn to when a question arises that cannot be found in any regulation.

I met him in my first month on the job. I had been assigned as a trainee to the shift team, and he was the one who conducted my first inspection rounds. We walked slowly through the turbine hall, and from time to time he would stop to point out details I had never noticed before: a slight vibration in a pipeline, the characteristic sound of a pump, a change in temperature on the casing of a unit.

At one point, I asked him how he managed to remember all of this. He shrugged and said that, over time, you simply begin to "feel" the equipment.

A few months later, it became known that he was planning to retire. Management asked him to devote several weeks to transferring his experience to younger specialists. He took this seriously: he began organizing his old notes, showing us his working notebooks, and explaining things that had never made their way into formal instructions.

One day, he brought an old, worn notebook to the shift. It contained entries from the plant's early years — diagrams, notes, dates. Some of the pages were almost faded. He said it was his "personal archive," and we asked for permission to scan it for the training center. On his last working day, he arrived earlier than usual and carried out his usual inspection round. Almost the entire team followed him, asking questions and trying not to miss anything.

Now, I often notice that during inspection rounds I listen to the equipment in the same way Nikolai Petrovich taught me. It turns out that some things can only be passed from one person to another.

WHEN CONTINUITY IS EMBEDDED IN THE INDUSTRY'S MANAGEMENT SYSTEM. RUSSIA

I am an engineer at a nuclear power plant in Russia. The industry has already developed a mature school: substantial experience has been accumulated in design,

construction, and operation. At the same time, a significant share of key specialists are engineers with decades of practical experience, who have contributed to the industry's development at different stages.

The central question is how to ensure the preservation and transfer of this experience under conditions of workforce renewal, the introduction of new technologies, and the expansion of international projects. This is not only about knowledge but also about safety culture and engineering thinking.

A systemic model of continuity has been established in the industry. Integration of education and practice: specialist training begins at specialized universities, including the National Research Nuclear University MEPhI, and continues at enterprises. Mentorship: young specialists are paired with experienced engineers. Knowledge transfer takes place in the course of real work. Rosatom implements professional development programs, management training, and the development of expert communities. An important element of the system is the capture and dissemination of experience: all key decisions and practices are documented, discussed on professional platforms, and shared across the industry.

Such a system makes it possible to preserve critical competencies, accelerate the training of new specialists, and ensure stability amid technological change.

Working within this system, I see that development is impossible without respect for the experience of previous generations. Every new decision builds on accumulated knowledge.

I believe that continuous development is ensured primarily through managed continuity. The transfer of knowledge is not a separate task but an ongoing process embedded in the system. This is precisely what allows our industry to maintain stability while moving forward.

WHEN A NEW INDUSTRY IS BUILT TOGETHER WITH A SYSTEM FOR KNOWLEDGE TRANSFER. TURKEY

I am an engineer involved in the development of nuclear energy in Turkey. For the country, this is a new industry: infrastructure is being formed in parallel with the training of specialists. From the outset, it was clear that without external expertise and a systematic approach to knowledge transfer, it would be impossible to create a sustainable industry.

Our key task is not simply to train specialists but to ensure technology transfer, the transmission of practical experience, and the formation of our own engineering school. This requires not one-off educational programs but a long-term system of continuity.

A decisive role in this process is played by cooperation with Rosatom, which has been structured as an end-to-end model of knowledge transfer. Systemic education: Turkish students study at specialized universities, including the National

Research Nuclear University MEPhI. Training covers fundamental disciplines, engineering practices, and safety standards. Great emphasis is placed on immersion in practice: education is complemented by internships and work at operating facilities, where an understanding of real operational processes is formed. At the project implementation stage, Turkish specialists work alongside Russian engineers. Knowledge transfer takes place in the workflow — through joint decision-making, analysis of practical situations, and daily interaction. National expertise is formed: as the project develops, knowledge is consolidated within the country — local teams are formed, experience is accumulated, and a foundation is created for training future generations.

Such a model makes it possible to rapidly develop qualified personnel, ensure continuity of knowledge, and gradually transition from reliance on external expertise to a stable internal system.

Working within this system, I see that the key factor is not just training but the quality of experience transfer. Knowledge becomes valuable only when it is applied in practice, passed on, and embedded in the system.

I believe that continuous industry development is possible only with deep and structured knowledge transfer. The role of international partnership, including with Rosatom, lies not only in supplying technology but also in building a full-fledged school — through education, practice, and generational continuity. This model ensures long-term sustainability and development of the industry.

WHEN KNOWLEDGE IS TRANSFERRED TOGETHER WITH RESPONSIBILITY. SOUTH AFRICA

I am an engineer working at a research center in South Africa, where the SAFARI-1 research reactor is operated. This is a facility with a long operational history. A significant portion of key decisions and approaches was shaped by previous generations of specialists.

The system operates reliably, but the team faces the task of simultaneously preserving the reliability of proven solutions while introducing new technologies and preparing a new generation of specialists. Equally important is not to lose knowledge that is not always formally documented but is critical for understanding processes.

The work is built on a combination of continuity and renewal. Young engineers work closely with experienced specialists. Discussions cover not only procedures but also the reasoning behind past decisions. We regularly revisit practices: some processes formed decades ago are analyzed in light of modern standards, digital tools, and new efficiency requirements. We update tools by implementing monitoring systems, digital data processing, and more precise diagnostic methods. At the same time, the fundamental principles of safety remain unchanged.

This approach makes it possible to preserve system stability, gradually improve its efficiency, and develop a new generation of specialists capable of working with both traditional and modern solutions.

Working within this system, I see that development does not occur through abrupt changes. It happens through the careful integration of existing experience, new knowledge, and responsibility for results.

Continuous development is ensured through a balance of respect for accumulated experience, systematic renewal of knowledge, and the active participation of the younger generation. This approach allows critical competencies to be preserved while moving forward.

CONTINUITY AS THE KEY TO SUCCESS

My name is Alexander, I am an engineer. I would like to share an experience that is now more than five years old, but which, in my view, has universal significance.

Several years ago, I was part of the national team preparing to compete in the WorldSkills Kazan 2019 championship in the mechatronics category. This is one of the most complex disciplines. We worked in a team of three, solving tasks at the intersection of mechanics, electronics, automation, and programming. We had to assemble a production system from modules, connect sensors and actuators, program PLCs, configure interaction between components, and ensure stable operation of the entire line.

At the beginning, it seemed to me that the most important things were speed of assembly, precision of connections, and "clean" code. But I had a mentor — a person with extensive practical experience. And he constantly shifted the focus. He would ask, "How will the system behave in the event of a failure?", "Where is your weak point?", "What will happen if the signal arrives with a delay?" At the time, it felt like he was making the task more complicated.

Gradually, the preparation became deeper. We stopped looking at modules in isolation; I began to apply systems thinking. We started analyzing the system as a whole — its interaction logic, the sequence of operations, its response to errors. We worked more deeply with PLCs and control logic: I learned to write robust algorithms, build in fault tolerance, and anticipate non-standard scenarios. My approach to integrating mechanics and electronics also changed: it became important not just to assemble but to fine-tune motion accuracy, synchronize components, and prevent the accumulation of errors within the system. With my mentor's guidance, I developed strong diagnostic skills: he would deliberately introduce faults — sensor failures, communication errors, desynchronization of modules — and taught me not to "guess" but to analyze, test hypotheses, and identify root causes.

My mentor often said, "Mechatronics is not about assembly. It is about understanding how the system will behave when things don't go perfectly."

At the championship, this proved decisive. At one point, the system began to operate unstably: a module lost synchronization, and the sequence was disrupted. In that moment, it was not what I had memorized that helped me. It was what I had been taught: to stop, break the system down logically, and restore its operation.

I realized that I had gained more than just skills. I had developed the ability to see the system as a whole, an understanding of its behavior, and confidence in working under conditions of uncertainty. Now, working in my profession, I pass this on to others.

FROM THE CREATORS OF THE DECLARATION

Evgeny Borisyuk, Russia

Senior Engineer, Branch of Rosenergoatom Concern JSC in the People's Republic of Bangladesh

The Declaration sets the direction, but the real work begins where principles meet reality. The book "Living Principles" is about this: principles become meaningful only through practice.

But practice is always about difficulties: from approving documentation to starting a reactor, from cultural differences in teams to working in difficult climatic conditions.

It is their decision, rather than formal adherence to a plan, that forms professional interest and development. Competencies do not grow in the comfort zone — they are formed where responsible decisions are made.

Anastasia Zhitnikova, Russia

Senior Manager, Rosatom — International Network

When we created the Declaration, we wanted it to become something more than just words — we wanted it to become a common commitment. It is a reminder that real change begins with individual responsibility but becomes powerful only through collective action. If we really care about the future, we must act together today — consciously, responsibly, and purposefully.

06

PRINCIPLE 6

COOPERATION, TRUST, AND MUTUAL ASSISTANCE

The nuclear future is only possible through transparent and honest partnerships built on mutual respect, trust and a willingness to support and work with each other

WHEN THE NETWORK BECOMES STRONGER THAN INDIVIDUAL PARTICIPANTS. AFRICA (REGION)

I am an engineer and a member of the African Young Generation in Nuclear (AYGN). I represent a country where the nuclear program is only beginning to take shape. We have motivation and interest but we do not always have sufficient experience, access to experts, or a clear understanding of practical steps.

When I first joined AYGN, I did not have specific expectations — more of a general hope for useful experience and professional contacts. But the reality turned out to be far more interesting. The organization brings together members from different countries, all of which are at different stages in the development of nuclear technologies and expertise: some already have well-developed infrastructure, while others are only taking their first steps. The question arose: is it possible to build real cooperation under such differences?

Working within AYGN showed that what matters is not only the level of development but also the willingness to share. For me, AYGN is primarily about the exchange of practical experience: colleagues from countries with more advanced infrastructure share real cases, mistakes, and solutions that are not always described in textbooks. But it is also about mentorship: more experienced participants help others prepare for international programs, understand professional requirements, and shape their career paths. What is important to me is that we share a common agenda, and through this, a gradual understanding has formed that we are not working in isolation but as part of a unified professional community.

For me, this is an example of an organization with a high quality of interaction: less formality — more practical value; less competition — more mutual support; greater trust in professional matters. This is especially important in an industry where mistakes are unacceptable.

WHEN HELP COMES BEFORE THERE IS A PROBLEM. EAST AFRICA

My name is Joseph, I am an engineer and I work for a regulatory authority in one of the East African countries. Our nuclear program is at an early stage: we are developing a regulatory framework, training specialists, and building processes. At the same time, resources and practical experience within the country are limited.

At the stage of developing requirements and procedures, it became obvious that we could not rely solely on our own experience. Mistakes at this level can be too expensive, so it's important to build a system based on the right principles right away.

The solution was active cooperation with other countries of the region and international organizations. We started visiting the regulatory authorities of the countries where the system is already functioning — we studied the procedures,

analyzed real cases, and asked direct questions. We attracted expert support: international experts helped to evaluate our documents, point out the risks, and offer proven solutions. We began to organize joint trainings more actively: specialists from different countries were trained together, which allowed us to align approaches and form a common understanding of standards.

As a result, the regulatory framework was formed faster and better, typical mistakes of the initial stage were avoided, and a network of professional contacts was formed that can be contacted in the future.

I am sure that in the context of developing programs, cooperation is not an additional option but a necessary condition. Through openness, exchange of experience, and mutual support, a system is being formed that can operate safely and sustainably.

NETWORKING FOR NUCLEAR INDUSTRY. RUSSIA

I work in the Engineering Division of Rosatom, I sell auxiliary equipment. My job is full of business trips, meetings, negotiations. And often, sitting in the hall of another forum, I catch myself thinking: right here, in these few days, a whole small world is gathering.

People from different backgrounds, from different companies and countries. But everyone has one thing in common: the desire to move nuclear energy forward. Through knowledge, through contracts, through simple human communication. It sounds pretty obvious, doesn't it? But sometimes it's worth reminding yourself: when the event comes to an end, when the doors of the exhibition hall close and everyone goes home, cooperation does not stop.

Experts and scientists, engineers and lawmakers, students and just those who are genuinely interested in the future of our planet do not disappear anywhere — their work and tasks remain relevant. When I think about it, I imagine a vast network of contacts, connections, and even simple human memories that spans the globe. And I want to believe that together we can achieve the goals that nuclear energy sets for itself.

Cooperation, trust and mutual assistance are the fundamental principles on which a solid and reliable foundation for real change and concrete actions will be built. Therefore, the sixth paragraph of our Declaration resonates especially with me. He recalls that behind each of the seven principles enshrined in a single document, there are simple but deep and meaningful realizations. And if we follow them, we can achieve any goals.



THREE GIRLS, TWO PROJECTS AND ONE COMMON GOAL. EGYPT. ETHIOPIA. ZAMBIA

We met at a university in Moscow. Sohyla is from Egypt, Meron is from Ethiopia, and Grace is from Zambia. Nuclear physics brought us together. Our story began with something simple: curiosity and a shared passion for nuclear science. We met as young women professionals brought together by a common goal, from different parts of the world, each with our own perspectives, ideas, and expectations.

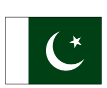
What surprised us most was how quickly trust could grow when everyone was committed to the same purpose. We weren't just working on a project, we were learning how to work together.

The principle of Cooperation came to life in a very real way. Through mutual support and respect, we created a space where ideas could evolve freely. At the same time, we were guided by another powerful principle: Nuclear Science in Service to Humanity. We didn't want our knowledge to stay in textbooks, we wanted it to make a difference.

Together, we developed projects focused on addressing real-world challenges, practical nuclear-based solutions for African countries: mobile radiation units for on-site plastic waste processing (NUTEC Plastics initiative) and regional radiopharmaceutical distribution hubs to improve access to cancer diagnostics and treatment (Rays of Hope Initiative). It wasn't easy, but every obstacle pushed us to think more creatively and collaborate more deeply. We also had the opportunity to connect with other young people at the International Atomic Energy Agency, and we were amazed by what youth around the world are achieving, transforming knowledge into solutions that are practical, impactful, and inspiring.

In the end, we created more than just projects. We built friendships, shared experiences, and a sense of purpose that goes beyond borders. The memories we made will last a lifetime, and we truly believe the impact of our work will last even longer.

We hope that wherever you are, you find your own path, one that allows you to use your knowledge to make a difference. And as we move forward, let's continue forging our paths in nuclear science, for a better Africa, and a better world.



AN INVITATION THAT I COULDN'T ACCEPT, BUT IT DIDN'T STOP ME. PAKISTAN

I am a student from Pakistan. And I love nuclear safety. It sounds loud but it's true. In 2025, I was invited to the World Atomic Week in Moscow. I was preparing a report. I even started learning a few phrases in Russian. And then I looked at the ticket prices.

And I realized: I can't go. My university did not have the funds for such trips. The grant I was hoping for didn't come. I was sitting in my room in Karachi and I felt like I had been cut out of the future. But I decided that this was not the end. I wrote to the organizers, "I can't be physically present. But can you send me recordings of the sessions? Can I participate online?" They arranged remote access for me. I watched the discussions at three a.m. local time, took notes, and wrote comments in the chat.

And then I started working with the World Nuclear Safety Institute. We have launched a series of online forums for students from countries where it is not possible to attend conferences. I share the materials I have collected, help translate lectures, and find tutors.

The principle of youth leadership for me is not about the budget for business trips. It's about the enthusiasm that doesn't go out. If I can't come to knowledge, let knowledge come to me. Even if it's through the screen.

MUSHROOMS AFTER THE SHIFT. RUSSIA

In my family, there is a person who has never called himself a scientist, yet has worked several times on one of the most famous scientific projects in the world. This is my uncle, Dmitry Semenovich. For many years, he has worked as a top-grade lathe operator in a laboratory at the Joint Institute for Nuclear Research in Dubna.

In the late 1990s and early 2000s, some of the institute's specialists traveled to Switzerland to help assemble equipment for accelerator facilities at CERN. Among them were not only physicists and engineers but also people skilled in highly precise mechanical work — fitters, machinists, assemblers.

My uncle said that people from many different countries worked on site. A single team could include a French engineer, an Italian technician, and several specialists from Russia. They spoke different languages but quickly found a common one — through drawings, gestures, and tools.

The work was organized in shifts, sometimes lasting many hours. After such shifts, people would often simply walk around the surrounding area to unwind.

One day, my uncle went into a nearby forest with a few colleagues. For them, it was entirely natural: if you see mushrooms, it is hard to walk past them. After a couple of hours, they returned with a large basket — chanterelles, birch boletes, and several other types of mushrooms they confidently recognized.

He sent a photograph home. In it, several people, slightly tired after their shift but clearly pleased, are holding a large basket of mushrooms.

Later, one of the local colleagues explained that in Switzerland mushroom picking is strictly regulated: there are limits on quantity and even on specific days of the month. We laughed about this story for a long time. There was something very symbolic in it. During the day, people from different countries were assembling one of the most complex scientific installations in the world. And in the evening, they behaved like ordinary mushroom pickers — debating which mushrooms were edible and posing for photos with a full basket.

When I later saw photographs of the enormous accelerator ring deep underground, it became clear to me that such projects are built not only through formulas and theories. They are made possible by the cooperation of very different people — from professors to mechanics, who, after their shifts, go for walks in the forest and pick mushrooms.

WHEN COLLEAGUES BECOME PARTNERS. RUSSIA

I work as an engineer at an industrial site and often participate in projects where specialists from different countries collaborate.

At the beginning of each project, there is a period when teams are just getting acquainted: discussing standards, working approaches, and the organization of processes. Sometimes it seems that this slows things down. But over time, it becomes clear that this stage is what creates the foundation for trust.

One of our projects required particularly close interaction between engineering teams. Decisions had to be discussed jointly, sometimes for several hours.

As a result, we not only found the optimal technical solution but also established a stable working communication.

After the project was completed, one of our international colleagues said, “The most valuable thing we did was learn how to ask each other questions.” That is precisely the foundation of real collaboration.

A DISPUTE AT A TECHNICAL MEETING. UZBEKISTAN

I participated in an international project where technical solutions for new infrastructure were being discussed. At one of the meetings, a serious dispute arose.

Teams from different countries proposed different approaches to organizing one of the systems. Each option had its advantages. The conversation quickly became tense. People defended their solutions, sometimes quite emotionally.

At one point, the meeting leader suggested pausing and returning to the original question, “What is best for safety and long-term operation?”

After that, the discussion became more constructive. Teams began to analyze each other’s arguments rather than defend their own positions. In the end, a solution emerged that combined elements of both approaches.

This case showed me that collaboration is not the absence of disagreement. Real trust arises when people can openly argue and still continue working together.

THE WRONG WRENCH. SWITZERLAND

I work as an engineer assembling experimental equipment at CERN. In the early 2000s, our team was involved in installing one of the detector modules for the Large Hadron Collider. It was work where everything was measured in millimeters, and sometimes even fractions of a millimeter.

One day, we ran into a rather mundane problem. A component that needed to be secured inside the structure simply would not fit into place. According to the drawings, everything should have aligned perfectly, but in practice the fastening points were off by just a few millimeters. We checked the calculations, the dimensions, the measuring instruments. Nothing helped.

At some point, one of the engineers suggested calling colleagues from the Joint Institute for Nuclear Research in Dubna, who were working in a neighboring section. They were dealing with a different part of the equipment but had a reputation for having an exceptional feel for assembly mechanics.

A few minutes later, a small group of people in work jackets and helmets appeared in the collider tunnel. They examined the structure in silence for a while, discussed something among themselves, and then asked for an ordinary wrench.

I remember how one of them carefully loosened several fastenings in a neighboring unit — not in the place where we had been trying to solve the problem. The structure shifted ever so slightly, by a fraction of a millimeter. After that, the component slid into place effortlessly. It was a very simple moment but it stayed with me. In projects like this, it can seem that everything is determined by calculations and computer models. But in practice, a huge role is played by the experience of people who know how to work with mechanisms by hand.

Later, I learned that many specialists from Dubna had started their careers in mechanical workshops and experimental laboratories.

When you work in an international team, moments like this happen all the time. Some people bring more theoretical experience, others more practical expertise. And it is precisely this combination that ultimately makes complex installations work. In the collider tunnel, it is hard to see national boundaries. There is only one task — to assemble the system so that it works exactly as intended.

A COMMON LANGUAGE OF SAFETY

I took part in an international technical seminar that brought together specialists from different countries. Everyone had different backgrounds: some worked at operating energy facilities, others represented research institutes, and some were involved in regulation.

At first, the discussions were cautious. Each country was accustomed to its own procedures and terminology. But when the conversation shifted to practical issues — personnel training, safety culture, the exchange of operational experience — it became clear that we had far more in common than differences.

The most valuable part was the analysis of real working situations. People shared the challenges they had faced and the solutions that helped them overcome them.

I believe that safety in our industry is not a competition between countries. It is a shared responsibility. That is the essence of international cooperation in the nuclear field.

A TEAM BEYOND A SINGLE HOSPITAL

I am a radiologist. A few years ago, our clinic began collaborating with medical centers in other countries to exchange experience in radionuclide diagnostics. At first, it looked like a series of online consultations. We discussed complex clinical cases, shared research results, and compared diagnostic methods.

Gradually, these meetings became regular. For patients, this proved especially important. In some complex cases, doctors from different countries were able to jointly discuss diagnoses and choose the optimal treatment strategy.

This experience showed me that collaboration in medicine works best when specialists are willing to share knowledge and experience without formal barriers.

A STUDY THAT BECAME INTERNATIONAL

I work in a university laboratory, analyzing materials using nuclear methods. Our project started as a small university experiment. But soon it became clear that research groups in other countries were working on similar topics. We began exchanging data, discussing measurement methods, and verifying each other's results.

This collaboration significantly improved the accuracy of our research. When we were preparing the publication, it became clear that without international data exchange, this result would not have been possible.

Sometimes scientific projects become international not because it was planned that way, but because people recognize the value of working together.

LEARNING FROM ONE ANOTHER

I participated in an international training program that brought together participants from different regions.

Each of us represented our own professional background — engineers, researchers, educators. At the beginning of the program, it seemed that the experiences of different countries were too diverse. But during the course, it became evident that the exchange of practical knowledge was valuable for everyone. Some shared their experience in training operators, others spoke about public communication, and others explained the specifics of national regulatory frameworks.

By the end of the program, many participants continued to stay in contact even after the course had finished.

It seems to me that cooperation does not begin with formal agreements but with professional dialogue between people working in the same field.

LABORATORIES ON DIFFERENT CONTINENTS

I work in a research laboratory that focuses on materials analysis. Our project involved a series of measurements requiring very high precision. To verify the results, we decided to conduct parallel measurements in laboratories in several countries. This meant that different teams used identical methodologies and then compared the results.

The process turned out to be more complex than we had expected. We had to align procedures, data formats, and even the conditions for storing samples.

But when the results matched, it became clear that collaboration had helped confirm the reliability of the study. Science often requires independent verification. And the most reliable way to achieve this is to work together.

TRAINING DRILL

I work as an instructor at a training facility for operator preparation. As part of an international program, we conduct joint exercises for specialists from different countries.

The scenario involves a complex situation in which participants must quickly exchange information and coordinate their actions.

As a rule, teams initially act in a fragmented way. Each group tries to solve the problem independently. But as the scenario develops, it always becomes clear that a successful outcome is only possible through continuous information exchange. By the end of the exercise, the teams begin to operate as a single system.

A common comment from participants after the training is, “We were not only training to operate the system — we learned to trust each other.”

THE SAME QUESTION IN DIFFERENT COUNTRIES

I work in a team that analyzes operational experience of equipment. Much of our work involves studying minor deviations in parameters that remain within acceptable limits but require careful analysis.

Once, we encountered a situation where one of the auxiliary systems began to behave in an unusual way. The protection system functioned normally, and there were no safety risks, but it was important for the engineers to understand the cause.

Some time later, at an international technical meeting, specialists from another country mentioned a similar observation. It turned out that their team had already conducted an analysis of comparable system behavior.

Naturally, the exchange took place at the level of generalized conclusions and engineering observations, without sharing internal data or operational reports. But even this was enough to look at our situation from a different perspective and refine our approach to the analysis.

Such meetings reminded me of an important point: in the nuclear industry, the exchange of experience allows engineers to find answers to complex technical questions more quickly.

WHEN THE PROFESSIONAL COMMUNITY EXTENDS BEYOND BORDERS

I am an engineer working in the nuclear industry in my country. We have a mature system — there is infrastructure, educational programs, and clear career paths. To be honest, before participating in international programs, I thought that was sufficient. In 2024, I attended the summer school of the World Nuclear University — a month-long program held in Brazil.

From the very first days, it became clear that this was not just training. The group included participants from dozens of countries, with different levels of industry development, different experience, and different objectives. And while many processes were “baseline” for me, for others they were only a goal. This made me look at my own role differently.

The program was built around dialogue. It was not only lectures but also group projects, case discussions, and open debates. What proved essential was that

participants were not divided into “those who teach” and “those who learn.” We learned from one another. In one project, we worked on a scenario for developing a nuclear program in a country where the industry was just emerging. I proposed a solution based on my country’s experience. A colleague from another part of the world asked a simple question, “How much of this can actually be implemented in our context?” It became clear that there are no universal solutions — only approaches that need to be adapted. Over time, trust developed within the group. We began to discuss real challenges, share not only successes, and ask questions without fear of appearing unprepared.

By the end of the program, I came away not only with new knowledge but also with an understanding of the global context, a network of professional contacts, and a sense that the industry is not a collection of national systems but a single space. I arrived as a representative of a “developed system.” I left with the understanding that development is not a state but a process in which countries learn from one another.

The case of the World Nuclear University summer school shows that collaboration in the industry is built not only on institutions but also on personal connections and professional trust. It is precisely such formats that help align approaches, reduce gaps between countries, and build a shared understanding of the industry’s future.

07

PRINCIPLE 7

RESPONSIBLE ACCESS TO ACHIEVEMENTS IN NUCLEAR TECHNOLOGY

Countries that adhere to internationally accepted standards and regulations under the aegis of IAEA must have non-discriminatory, equal, and comprehensive access to advanced technological achievements in nuclear energy for their peaceful and sustainable development

PRINCIPLE 6

A SMALL MEDICAL PROGRAM. BANGLADESH

I am not an engineer but a doctor. My work is related to the diagnosis of oncological diseases. A few years ago, our clinic gained access to new methods of radionuclide diagnostics.

For patients, this meant the possibility of receiving accurate examinations without traveling abroad. But for the medical staff, it also meant the need to master new technologies and safety standards.

We underwent training together with colleagues from other countries. Doctors, medical physicists, and engineers learned to work as a unified team.

This experience showed me that nuclear technologies are not limited to energy. They directly affect the quality of medical care. When such technologies become accessible to a wider range of countries, they change the lives of thousands of patients.

A TEAM THAT DID NOT EXIST BEFORE. BANGLADESH

When I started working at the national research center in Dhaka, our team was very small. Specialists with experience in the nuclear field could be counted on one hand. Therefore, one of the first tasks was training. We participated in international courses, completed internships, and invited experts to conduct seminars. Gradually, local groups of specialists began to form, consisting of engineers, physicists, and analysts.

The most interesting moment came a few years later. At one of the training seminars, I saw students attending lectures delivered by my own colleagues. At that moment, it became clear that the knowledge system had begun to function independently. Access to technology is not a one-time event. It is a process that builds a professional community.

INVISIBLE TRACES IN WATER. BELARUS

I work in monitoring water quality in coastal areas. We usually use standard methods for analyzing pollution.

A few years ago, our laboratory began collaborating with a research center that applies isotopic methods to study the sources of contamination.

These methods made it possible to determine the origin of certain substances in water much more precisely than traditional analyses. For example, we were able to distinguish pollution related to industrial emissions from natural processes.

This helped environmental services make more informed decisions. Before this project, I had almost no experience with nuclear research methods. Now I understand that they can be a useful tool for solving environmental challenges.

HOW WE BEGAN MEASURING SOIL. BELARUS

I am an agronomist working in a research center focused on increasing crop yields. For a long time, we used traditional soil analysis methods: chemical tests, laboratory studies, and field observations. These worked, but the results often took a long time. One day, we were proposed to try an isotopic analysis method to evaluate fertilizer efficiency. At first, I was skeptical. It seemed to me that nuclear technologies belonged to a completely different field. But once we started using this method, it became clear that it allows for a much more precise understanding of how plants absorb nutrients.

We were able to adjust recommendations for farmers and reduce excessive use of fertilizers. It is interesting that some of the most precise tools for agriculture come from areas of science you previously knew almost nothing about.

A SMALL RESEARCH GROUP. BRAZIL

I work in a small university-based research group. We apply nuclear methods for materials analysis. Our projects are not directly related to energy. However, the methods we use help study environmental pollution, soil composition, and water quality.

A few years ago, we had the opportunity to collaborate with international research centers. This allowed us to use equipment and methodologies that had previously been unavailable to us. What was particularly interesting was that the collaboration turned out to be mutual. Our regional research data proved useful for global scientific projects.

This experience showed me that access to nuclear technologies works like a network: the more countries participate in scientific exchange, the more knowledge is generated for everyone.

WHEN KNOWLEDGE IS TRULY TRANSFERRED. HUNGARY

I participated in an international training program for young engineers. The group included specialists from different countries: some already had a developed nuclear industry, while others were only beginning to build their first elements of infrastructure. At first, this created a sense of discomfort. Participants from countries with a long history of nuclear energy felt more confident. Others worried that they lacked a sufficient foundational background.

But during the course of the program, it became clear that it had been designed precisely to reduce this gap. Together, we analyzed real technical cases, simulated operational situations, and discussed practical solutions. No one treated knowledge as something closed or "elitist."

One moment stood out in particular, when one of the instructors said: "Nuclear technologies can develop safely only when knowledge spreads faster than mistakes."

After this program, I understood that access to technology is not only about the supply of equipment. It is, first and foremost, about the transfer of a culture of engineering thinking and responsibility.

THE FIRST COURSE ON RADIATION SAFETY. VIETNAM

I am a physicist by training. At university, we studied nuclear reactions and theory, but there were almost no practical courses. A few years ago, the first course on radiation safety for engineers and medical specialists was introduced at our university. The program was developed in collaboration with international experts.

Radiation safety is a distinct discipline that requires strict procedures and precise measurements. During laboratory sessions, we learned to calibrate instruments, calculate dose loads, and analyze monitoring data.

This course became a starting point for an entire group of students. Many of us continued our education and now work in different fields: some in medicine, some in industry, and some in research centers. For a country where nuclear infrastructure is only beginning to develop, such educational programs create a foundation for the future.

A SMALL RESEARCH PROJECT. KENYA

I began my career in a university laboratory where we analyzed soil and water. The work relied on methods based on nuclear technologies. Our project was small but highly practical: we studied pollution levels in agricultural areas.

The most valuable aspect of this project was not the equipment but the collaboration. We worked with colleagues from other countries, discussed measurement methods, and compared results. This helped us align our laboratory procedures with international standards.

When we published our first results, it became clear that such research is important not only for science but also for regional environmental policy. I realized that responsible access to nuclear technologies is not only a matter of energy. It is also a tool for solving practical development challenges.

A SHARED LEARNING ENVIRONMENT. CHINA

I participated in an international training course organized with the support of the International Atomic Energy Agency. Engineers, university lecturers, and representatives of national regulatory bodies from different countries were all in the same classroom. At first, it seemed that everyone's experience was too different. But this diversity turned out to be an advantage.

During practical sessions, we worked through real-world tasks: safety issues, equipment lifecycle management, and personnel training. People asked many questions, sometimes unexpected ones, because each country faces its own infrastructure challenges.

Gradually, it became clear that knowledge exchange works in both directions. Some shared operational experience, others contributed methods for training personnel, and others discussed solutions in the field of digital systems.

Nuclear technologies are often perceived as a complex and closed domain. But in an educational environment, it becomes evident that their sustainable development is only possible when specialists from different countries learn together and share a common understanding of core principles.

WHY STANDARDS MATTER MORE THAN EQUIPMENT. SAUDI ARABIA

When our country began to consider developing nuclear technologies, public discussions focused mainly on equipment and project costs.

But at professional seminars, the conversation looked entirely different. Most of the time was spent discussing standards: safety procedures, requirements for personnel training, and international rules for handling materials.

At first, this seemed like excessive bureaucracy. But the more I worked in this field, the clearer it became that standards are what allow countries with different levels of experience to operate within a single system. Today, when I participate in international meetings, I see that engineers from different regions use the same terminology and procedures. This creates the foundation for trust and cooperation. That is why responsible access to technology is impossible without a shared language of safety and regulation.

WHY WE TEST PRODUCTS DIFFERENTLY. SOUTH AFRICA

I work at a company that exports food products. To access international markets, we must verify the safety and quality of our products. A few years ago, we began collaborating with a laboratory that uses radiation-based analytical methods to examine product composition.

At first, I was surprised that technologies associated with nuclear science were applied in the food industry. But it turned out that these methods make it possible to detect microscopic traces of substances that are difficult to identify using conventional techniques. For producers, this means stricter quality control. For consumers, it provides additional confidence in product safety.

WHEN TEXTBOOKS BECOME REALITY

I grew up in a small town where electricity would sometimes be cut off for several hours a day. Because of this, the idea that a country could develop complex energy technologies seemed distant for a long time.

When I enrolled in an engineering program focused on nuclear technologies, many people I knew asked, “Do we even have such an industry?” The honest answer was that it was only beginning to take shape.

The most important stage for me was an internship in an international training program. There, we worked with simulators, studied operational procedures, and analyzed real safety scenarios. For me, this was a turning point. I realized that the development of an industry does not begin with equipment but with people who understand standards and know how to apply them.

When I returned home, I was asked to help develop training materials for new students. That was the first time I truly felt that knowledge is passed on — and that this is how national expertise is gradually built.

THE DEVICE THAT CHANGED PATIENT PATHWAYS

I work as a diagnostic physician in a regional hospital. For most of my career, we referred complex cases to the capital. This was especially true for oncology: accurate diagnosis required tests that we simply could not perform locally.

A few years ago, a new radionuclide diagnostic method was introduced in our clinic. For us, this meant not just new equipment but the need to completely change our established way of working.

We underwent training, mastered new safety protocols, and learned to work as a team with medical physicists. The most noticeable change occurred not in our work but in the lives of patients. People no longer have to travel thousands of kilometers to confirm a diagnosis or evaluate the effectiveness of treatment.

For me, this was the first experience where advanced technologies from nuclear science directly affected access to medical care.

A DEVICE IN A BACKPACK

I work in a regional emergency response service. Most of the time, we deal with routine tasks: fires, floods, and industrial incidents. A few years ago, our unit received portable radiation monitoring devices. We were trained to use them in case of incidents involving the transport of hazardous materials.

At first, it seemed unlikely that we would ever need these devices. But one day, during an inspection of cargo vehicles at a checkpoint, we detected elevated radiation levels. It turned out that the truck was transporting industrial equipment containing radioactive sources, and the documentation had been improperly prepared.

Thanks to the devices and our training, we were able to quickly assess the situation and relay the information to specialists.

This case showed me that access to modern technologies is important not only for scientists or engineers. Sometimes it is needed by people who are simply doing their jobs and must be prepared for a wide range of situations.

THE FIRST LABORATORY

I grew up in a country where nuclear science was discussed mainly in the context of medicine and agriculture. When I enrolled in a physics program, many professors believed that for serious research we would inevitably have to go abroad.

A few years ago, a small radiation technology laboratory was established at our university. It was created as part of international cooperation and quickly became a focal point for students. It was not a large-scale scientific complex. But for us, it meant the opportunity to conduct experiments at home rather than just read about them in textbooks. Later, I participated in an internship abroad and saw how similar laboratories operate in other countries. It became clear that international standards and the exchange of experience allow young specialists from different regions to speak the same professional language.

When technologies are shared responsibly and transparently, they cease to be the privilege of a few countries and become a tool for development.

FROM THE CREATORS OF THE DECLARATION

Meron Demessie, Zambia

University student, National Research Nuclear University "MEPhI"

Sohyla Aboudeif, Egypt

Postgraduate Student, Automation and Control Systems Engineer. Moscow Institute of Physics and Technology.

Grace Mbofwana, Ethiopia

University student, National Research Nuclear University "MEPhI"

The experience of developing the Declaration has changed the way we look at the world. It showed that cooperation is not just an ideal but a necessity. It reinforced our belief that by bringing different minds together around a common mission, we can create solutions that truly serve humanity.

We hope that wherever you are, you will find your way — a path that will allow you to use knowledge to change the world for the better. And moving forward, let's continue to develop nuclear science for a better Africa and a better world.

Yeohyong Lee, Republic of Korea

Postgraduate Researcher, Laboratory of Climate and Environmental Modeling, Sookmyung Women's University

While working on the Declaration, I sought to ensure that the six elements — education, training, public awareness and participation, access to information, and international cooperation — were meaningfully incorporated into its language. Instead of a symbolic approach to youth engagement, I emphasized its structural role in decision-making, knowledge sharing, and sustainable collaboration.

This experience has shown that youth leadership is most effective when it is institutionalized through clear mechanisms of participation and knowledge sharing. Therefore, I consider it important to translate the principles of global governance into practical frameworks that enable young professionals to jointly shape a safer and more sustainable future.

Valentin Chudakov, Russia

Analyst, Center for analytical Research and Development

We split an atom to release the energy of the stars, but true power does not come from a reactor but from combining knowledge across borders. A secure nuclear future cannot be built alone — it requires a global resonance of minds and trust. That is why we have developed the Youth Declaration.

FROM THE EDITORIAL BOARD

This collection has been compiled following an open international call for submissions. Out of more than one thousand stories received, the editorial board selected one hundred cases that most fully reflect the seven principles of the International Youth Declaration for Nuclear Cooperation.

It is important to note that the compilers of this collection did not conduct independent verification of the authors' personal data and did not request documentary evidence of the events described. A significant portion of the materials was submitted anonymously, which was an acceptable condition for participation in the project.

In this regard, the editorial board cannot guarantee the absolute accuracy of all facts, dates, names, and circumstances presented in the stories. There is a possibility of unintentional distortions related to the nature of human memory, as well as deliberate alterations of details by the authors.

We ask readers to view "Principles in Action" not as a strictly documented report but as a snapshot of how contemporary participants perceive the ideas of nuclear cooperation. The published materials are intended to demonstrate the diversity of perspectives, experiences, and motivations that shape the image of the nuclear industry in the eyes of young people around the world today.

TO BE CONTINUED — WHAT TO DO IF YOU WOULD ALSO LIKE TO SUBMIT A STORY

WOULD YOU LIKE YOUR STORY TO BE INCLUDED IN "PRINCIPLES IN ACTION"?

Are you ready to contribute to the creation of "Principles in Action"? Write a short, concise, and personal story (approximately 300–700 words) based on your own experience — and we will help ensure that your story is seen by people around the world.

JUST 3 SIMPLE STEPS:

Step 1

Choose one principle that resonates with you the most
(see the text of the Youth Declaration for Nuclear Cooperation).

Reflect on your life, educational, or professional journey. Which of the seven principles of the Declaration is connected to your most meaningful experience? Choose the one that resonates most strongly with you.

Step 2

Tell your story

There is no need to write an essay or a formal report. Imagine you are telling a story to a friend over a cup of coffee. Be sincere. Follow a simple structure:

- **Situation:** How did it all begin? Where and when did it happen? (for example: "When I was working on a research project at university...," "My grandmother fell ill, and we were offered...," "At a conference, I encountered a misunderstanding...").
- **Challenge / insight:** What challenge, dilemma, or new understanding did you encounter? What surprised, inspired, or puzzled you?
- **Principle in action:** How did the selected principle of the Declaration manifest itself in this situation?
- (for example: the principle "Nuclear science in service of humanity" through a specific medical device; the principle "Cooperation" through a joint international project).
- **Outcome and personal meaning:** How did it all end? Why is this story important to you personally? How did this experience change your perspective, influence your choices, or shape your worldview?

Step 3

Send your story
Submit your story with the subject line "Principles in Action" to:
info@impact-mission.org

You may include your name and country, or submit your story anonymously — the choice is yours.

AUTHORS OF “PRINCIPLES IN ACTION”

Approximately 30% of all submitted stories included the names of their authors. We are grateful to acknowledge those who chose to share their stories and sign their names — both those whose stories are included in this collection and those whose stories did not appear in the printed version but will be published in the electronic archive:

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