

Projects, Innovations, Workforce and Talents

How will the nuclear of the future cope with them?



France

EDF (ENS Corporate Member) is the operator of the whole French nuclear fleet. While operating 56 reactors in the country, EDF is **planning new large size reactors** in France and abroad, as well as it is developing **its own design of Small Modular Reactor**, NUWARD SMR, with major contributions of several European partners. **Maintenance and innovation** are the two key words characterising the EDF strategy for the future.

We asked **Patrick Bossaert** (HR Director for New Nuclear Project at EDF) for showing the company's strategies for attracting, training and retaining new talents in order to achieve all of EDF's ambitious plans.

- *The recent GIFEN report forecasts a 25% growth in the volume of work by 2033, and the need for 60,000 full-time new recruitments to achieve this scope (half to compensate for retirements, half for business growth). On average, the French nuclear industry should hire 6,000 new workers every year, with peaks of 10,000 per year. **What is the EDF's strategy to face such massive growth?***

P.B. – I would start by saying that we are witnessing a real revival of nuclear power around the world. This low-carbon energy is finally being perceived as a significant lever in the fight against climate change, as well as for supporting energy sovereignty and reindustrialisation. **This momentum has revived a strong interest in the professional careers that EDF offers.** However, there is sometimes an **insufficient number of profiles coming out of schools to meet our needs.** Additionally, there is **a crossroads between retirements and the launch of major nuclear projects** in France and elsewhere. The French nuclear industry must **recruit 10,000 people every year for the next 10 years**, which is a major challenge.

In this perspective, **we have expanded our recruiting grounds**, for example, by developing partnerships with companies affected by social plans in high-tech sectors or by identifying employees who have recently completed nuclear projects worldwide, such as those at the Olkiluoto NPP in Finland (Areva).

We are also involved at all levels of education, from high schools to higher education institutions. Particularly, we collaborate with the Training Centre for Apprentices in Energy Professions (Centre de Formation des Apprentis des Métiers de l'Énergie - CFA) to increase the number of technician trainees, as well as of apprentices and interns. Additionally, since 2021, we have been opening up our recruitment process to job seekers by developing new recruitment methods with Pôle Emploi (the French national employment agency). Finally, we are innovating internally by **launching a co-optation programme** in 2022, which relies on our employees to participate in the recruitment process.

Of course, the major challenge remains **to inspire young people to join the training programmes that lead to our professions.** On this matter, we have established strong connections with all the stakeholders involved in the regions. We take action starting from high school to encourage the choice of technical or scientific studies, and we also promote apprenticeships, a real catalyst for the transfer of skills.

- ***What biggest challenges does EDF face in terms of knowledge management? How do you organise the knowledge transition between newcomers and staff who leaves?***

P.B. – In the professions within EDF, **accumulated experience is crucial**. In fact, we have developed a genuine culture of lessons learned so that all insights and knowledge gained are shared. Furthermore, we rely on a feedback loop that circulates through employees as they progress in their careers, moving from one project to another. This approach is implemented not only on our projects in France, but also worldwide, including the construction of the EPR at Hinkley Point (United Kingdom) and operating of the EPR power plants in Taishan (China), for example.

In addition to this, **the importance of knowledge and expertise sharing and transmission between generations is paramount**. To achieve this, we have implemented several mechanisms. First, our Group has established **internal training centres** that offer **nearly 700 specialised training programmes** for our nuclear professions. Moreover, each nuclear power plant is equipped with **simulators** that allow us **to continuously train teams on the operations of our facilities**. We also emphasise the retention of departing employees' knowledge within the organisation, for example, through a **Knowledge Management initiative**, a kind of “internal Wikipedia” where everyone can share articles about their expertise. At the same time, we are **committed to rapidly enhancing the skills of new entrants**. To achieve this, we rely on a range of measures, including on-site immersion in our projects in France and abroad, customised training programmes, and more.

- *Education & training are evolving and always play a crucial role in the nuclear sector. **What are the profiles and the new skills that EDF is looking for so to deploy its plans?***

First, **we are looking for employees at all levels of qualifications** (from skilled workers to executives) in a wide range of professions, including pipefitters, welders, as well as IT specialists and other professionals in the field of information systems, from cross-functional project managers to product owners. **We aim to recruit individuals who aspire to build a career in the nuclear industry**, people who will seize all the opportunities our Group offers to enhance their skills and become the professionals they aspire to be. **It's a win-win situation** as we have a strong interest in retaining our employees to consolidate our skills and expertise.

We are then in a long-term perspective considering the specific features of our sector. This leads us to want to hire experienced individuals (50% of our recruitments), as well as recent graduates, including 25% of interns and apprentices, who are a significant

investment focus for us. We recruit not only for our EPR2 construction projects in France or in Great Britain, but also for the operation and maintenance of the French nuclear fleet, which includes 56 reactors. In fact, we have launched a massive industrial programme worth €25bn for the renovation and modernisation of existing nuclear power plants. Additionally, **EDF has always heavily invested in R&D**, which allows us to be at the forefront of technologies useful for our sector, from additive manufacturing to high-performance computing. With 2,158 patents filed, over 358 academic and industrial partnerships, and 160 doctoral candidates, EDF's R&D researchers work alongside all the Group's professions to improve their operational and technical performances.

Finally, I hope to no longer have to talk about this one day, but we aim to attract more female collaborators, particularly in our technical fields. In 2021, the EDF Group had 26% women in its workforce. Since 2002, the number of women in technical professions within EDF SA perimeter has tripled, but it remains insufficient. **Our goal is to reach 35% female representation in executive recruitment by 2024.**

- *Strong relationships between industry and academia are also fundamental to attract new talents to the nuclear sector. **What are the steps EDF is taking in this field? What would be your message to graduates from STEM studies?***

We have **longstanding partnerships with schools and universities at the national and regional levels**. The EDF Group is also strengthening its relationships with institutions that offer BAC+2/+3 programmes, particularly expanding partnerships in regions where the Group has fewer sites, but which are student hubs. For example, in Normandy, a convention was signed in 2022 with INSA Rouen (National Institute for Applied Sciences) to facilitate the recruitment of young graduates, apprentices, and interns, as well as to provide expert speakers or contribute to innovative research programmes.

As **promoting the attractiveness of STEM studies remains one of the key challenges to energise our recruitment grounds**, we undertake various initiatives targeting teachers and students in high schools to raise awareness about nuclear industry careers. We actively participate in events like "L'Usine extraordinaire" ("The extraordinary factory"), which welcomed 18,000 visitors, including 6,000 secondary and high school students and individuals seeking career changes. This event successfully sparked interest among the younger generations in the industry, with 70% of the students expressing their interest in joining the sector in the future.

Regarding young audiences, **we are also investing in social media platforms**, including TikTok. The message we convey to this audience highlights the nuclear renaissance, making energy transition a reality, while also aiming to modernise industrial professions that are now at the intersection of high technology and innovation. We invite them to join

dedicated colleagues who bring together expertise and know-how, offering diverse career opportunities to experience an exciting industrial challenge.

- ***Can you say a few words about your mentorship programmes?***

Mentoring is that special, unique, and confidential relationship built on trust, allowing the mentee to benefit from the attention, expertise, and advice of mentors and their commitment to sharing experiences to provide support. It's a practice I have been particularly dedicated to and have promoted for years. **It's a win-win approach since the mentor can also learn a lot from their mentee on various aspects**, as confirmed by the different experiences we collected!

We support **several internal mentoring programmes**, one of which is the ÉNERGIES Mixité network, promoting gender equality within the company. In January 2022, the network launched its first mentoring cohort, a true success for a hundred female employees. I am personally involved in this programme as a mentor and have been one of its advocates.

Regarding **external mentoring**, in 2021, the EDF Group, in collaboration with its Foundation, initiated the "One Young, One Mentor" initiative. 450 EDF mentors are actively engaged with associations such as Télémaque, Chemins d'avenirs, l'École de la 2ème Chance, Proxités la Cravate solidaire, 100 chances /100 emplois, JOB IRL, Viens voir mon Taf, Unis-Cité, APEC, and many others. By leveraging this existing pool of mentors, the Group is scaling up its efforts, with **the ambition of reaching 1,300 mentored young individuals by 2025**, with one employee potentially mentoring several young individuals.