

# Human Capital Development

## Highlights

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Petrobras is a company that invests significantly in technology and, consequently, in training its employees to achieve our strategic objectives and break new ground. People's care is one of the values of the company's Strategic Plan, with knowledge and critical skills management being developed by Petrobras University.

The complexity of activities in an oil, gas and energy company like Petrobras requires competent, trained, and motivated professionals in several key positions. There is a clear need for training and updating professionals' skills in activities that highlight the state of the art in all functional and interdisciplinary areas, as a consequence of the competitive characteristic of the oil industry. Additionally, considering the challenges of Petrobras' current Strategic Plan, training and enhancement of its professionals is increasingly necessary.

Thus, we understand that investing in Training and Development (T&D) is fundamental to maintain the company's technical capacity, and that is why our investment in this segment is high: in 2023, it was around BRL 154 million, equivalent to BRL 3,825.90 per employee.

Traditionally, these corporate education and personal and professional development opportunities are conducted through training courses (mandatory for new employees joining the company through a public contest), and continuing education (including conclaves and several other Knowledge Management actions).

With infrastructure to meet the company's specific training demands, Petrobras University has classrooms and special laboratories located in Rio de Janeiro, Bahia, and Rio Grande do Norte, as well as resources for distance learning and other solutions.

### Training New Employees

The training courses are aimed at new employees who enters the company through a public selection process. The goal is to prepare them for full professional practice in the company, putting them in contact with more experienced professionals and disseminating extensive knowledge about the energy industry. This is the first contact that newly hired employees have with the company. It is a privileged space for the assimilation of Petrobras culture.

The courses have specific content for each position in the company, to train new employees on Petrobras-specific topics. In addition, the courses include an orientation module, common to all admitted employees, where Petrobras values are reinforced, including ESG (Environmental, Social, and Governance) and DEI (Diversity, Equity and Inclusion) issues.

In 2023, more than 2,300 new employees passed through our classrooms full-time.

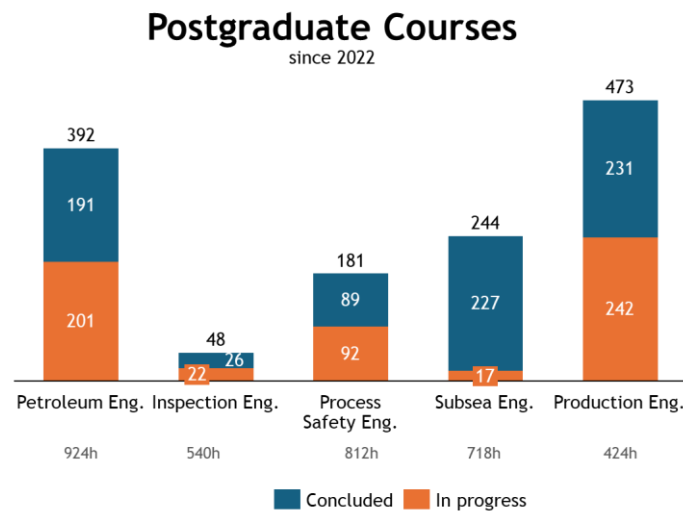
### Training New Employees with Postgraduate Degree

The Corporate Education System of Petrobras (Petrobras University) had its accreditation approved by the Ministry of Education (MEC) through Ordinance No. 933, dated November 6, 2020, DOU No. 213. This accreditation, valid for 5 years, made Petrobras University a Government School capable of offering lato sensu postgraduate courses, in person and distance learning.

Being a reference in Brazil and abroad in Engineering courses focused on oil and gas industry, Petrobras University adapted some of its engineering training courses to also become postgraduate courses, with a minimum workload of 360 hours and other requirements, respecting the National Education Guidelines and Bases Law and the ordinances that guide postgraduate courses in Brazil.

The courses are offered exclusively to new higher educational employees, being an integral part of the Training Course for professionals admitted through the Public Selection Contest.

We currently have five postgraduate courses registered in e-mec in various engineering emphases, with new courses expected to be added in the coming years. Petrobras University has 1,338 students enrolled, with 502 students expected to graduate in 2024. All courses have a detailed and robust pedagogical plan and highly qualified professionals in their teaching staff.



## Continuing Education

Petrobras understands that technical competence lies in people and, therefore, we value training and retention of knowledge and talents. To ensure that the knowledge developed and accumulated in the company throughout employees' careers is maintained, disseminated, and enhanced, Petrobras University offers several T&D actions in continuing education. Covering improvement courses, conclaves (such as lectures, workshops and seminars), mentoring, on-the-job training and other knowledge management actions, employees have the opportunity to develop and complement their training. The courses can be offered internally at Petrobras or through external institutions.

In 2023, 8,941 synchronous training were offered, with more than 121 thousand participants. For this, we have about 1,000 employees who also act as internal instructors within the company. Regarding asynchronous EADs, we have about 2,000 training courses available, with nearly 325,000 completions in 2023.

It should be noted that Petrobras has an action plan that aims to improve accessibility for the company. As a result of this plan, all asynchronous distance learning courses are provided with enabling subtitles, and synchronous courses are conducted with automatic captioning. One of the ongoing actions is training the workforce on the importance and attention to the topic of accessibility. Continuously, Petrobras University reviews classroom's infrastructure to promote the necessary accessibility for PWDs with new technologies available on the market. Furthermore, teachers, students and employees with disabilities or reduced mobility are provided with technical aids that allow access to the institution's activities on equal terms with other people.

As a result of T&D initiatives, Petrobras is recognized in Brazil and abroad for its Corporate Education initiatives, as highlighted in the chart below.



In 2023, among the various programs developed for training, we highlight the Complex Market Teams Development Program, the Human Factors Journey, Data Science Training, and Leadership Development, described below.

#### *Development of Teams for Operation in Complex Markets Program*

Designed for professionals, consultants, and top-level managers in the commercial areas, with participation of employees from interface areas that support commercial activities (Logistics, Refining, Strategy, Legal and others), the program started in 2019 and aims to enhance the necessary competencies for operating in the complex environment in which Petrobras is immersed, particularly with the entry of new players in the downstream sector in Brazil.

Due to the excellent results of the pilot class, new classes were offered to meet the target quantity of the commercial area and the growing demand from interface areas for participation. The program evolved dynamically, responding to changes in Petrobras' context and the energy industry.

In 2023, greater emphasis was placed on market orientation and issues related to the energy transition, given the pressing need for changes in our production, logistics, and commercialization processes resulting.

Its objective became to offer customers the best solutions in products, in line with the needs arising from the energy transition, through a keen market-oriented vision and focus on integration and value generation for Petrobras.

The 5 modules of the Program addressed the key topics related to commercial activity and were designed to value the participants' experience through discussions, simulations, critical thinking, and the development of a strategic vision, also emphasizing the improvement of skills and attitudes such as negotiation and communication.

The total workload was around 200 hours, with activities carried out in a hybrid format, both in live online sessions and in-person meetings to carry out practical activities in multidisciplinary and collaborative groups. The results generated were presented and discussed with the leadership related to the topics covered.

The program trained, in the 8 classes held, a total of 318 employees, of which 171 from the commercial areas, which corresponded to approximately 70% of the target quantity for this area by the end of 2023.

Aimed at professionals with experience at the Company, the program led to the establishment of an “ALUMNI” network with a market-oriented vision, enabling better coordination between areas. This network remains active by holding events on topics relevant to “ALUMNI”, to update and exchange knowledge.

Throughout the program, it was possible to see participants' progress in using information collaboratively to make quick decisions in a complex environment.

The results generated in the Program are inputs for the company's market and product positioning, predominantly adding aspects related to competitiveness and energy transition. Examples of market and product positioning outcomes include:

- The launch of R5 Diesel Oil (diesel oil with 5% renewable content) in 2022, CAP Pro AP (High Penetration Asphalt Cement) and CAP Pro W 30/45 (Asphalt Cement formulated for applications at reduced temperatures, with a reduction of approximately 65% in greenhouse gas emissions) in 2023. Together, they represented approximately R\$ 244 million in Petrobras' net revenue from their launch until March/2024.
- The opening of new gasoline and diesel fuel sales hubs in Rondonópolis (starting in January/2023) and Rio Verde (starting in February/2024), located in the Midwest region of the country, enabling access to interior markets, opportunities to improve our logistics chain, and strengthen dialogue with our customers. From their opening until March/2024, product sales in these hubs added approximately R\$ 450 million to Petrobras' net revenue.

### Petrobras Human Factors Journey

The Petrobras Human Factors Journey is an initiative that covers several dimensions of work, acting in a systemic way across all structures of the organization, integrating disciplines, developing people, creating solutions, and promoting cultural transformations. Since its beginning in 2021, when the Petrobras SMS and Climate Congress was held, the Petrobras Human Factors Journey has been developing actions that encompass its Senior Management, managers, workforce, and partners from service providing companies, creating an integrated ecosystem growth and evolution of safety.

Because it is a journey, and not a program, it acts on relationships, and not on the parties themselves. In the first of its five Petrobras Human Factors Principles, 1 - Trust is fundamental, the most important of these relationships is established, which is trust between people, in their work, in their professionalism and in their achievements, promoting engagement and making learning easier for everyone.

In this way, the way is paved for the second of these Principles, 2 - People create safety, understanding that it is people, with all their capabilities and flaws, who actually make work happen, building the company's reputation, safety and competitiveness, faced with various variables and unpredictability. It is precisely the unique capabilities of each person, combined in teams with others, that develop effective solutions for a non-linear and complex reality.

To this end, the third Principle, 3 - How we respond to failures matters a lot, demonstrating the importance of embracing and understanding failures. In extremely complex work environments, failure is not an individual choice, but rather the result of countless combinations of complex socio-technical relationships. Focusing only on blame compromises trust and the learning process, which are fundamental to the company's continuous evolution.

In fact, as established in the four Principle, 4 - To learn and improve is the key to success, organizational learning is the driving force of the company, promoting the transformations and solutions necessary for its continuous adaptation to social, technological developments and demands of competitiveness. It is through learning that the context of how, where, and why things happen is understood, using scientific resources and human creativity to provide solutions in a world in continuous evolution.

Therefore, understanding the context, as presented in the fifth principle, 5 - The context directs behavior, is fundamental so that, based on human relations, engagement and learning are promoted for the company's cultural transformations. But to do so, it is necessary to establish, primarily, trust in work relationships, which refers to the first Principle.

It can be seen, therefore, that the 5 Petrobras Principles of Human Factors promote a continuous cycle of understanding, learning, adaptation, and evolution, feeding the company's management systems with the necessary elements for its corporate and social success.

Aligned with institutions such as SPE (Society of Petroleum Engineering) and IOGP (International Association of Oil & Gas Producers), the Petrobras Human Factors Journey contributes to the promotion of field research and publication of scientific articles, consolidating disciplines in an integrated manner such as Human Reliability, Ergonomics and Process Safety, an international technical-scientific development ecosystem. In this way, the Petrobras Human Factors Journey also aligns with the 17 sustainable development objectives, especially the 3rd (Health and Wellbeing) and the 9th (Industry, Innovation, and Infrastructure), as it contributes to sustainable and resilient evolution of the O&G Industry, taking specific actions to ensure people's safety and well-being.

And seeking to foster this continuous learning, evolution and transformation, Petrobras University, through various formation, training, dissemination and engagement initiatives, develops educational solutions that further strengthen the Petrobras Human Factors Journey, highlighting the EaD course “ Basic Concepts of Human Factors”, where there was the voluntary participation of around 50,000 people, including own employees and those of other partner and affiliated companies, going down in history as the EaD with the greatest voluntary engagement.

In face-to-face solutions, the “Human Factors Laboratory” and “Human Factors Minilaboratory” stand out, which together trained around 2,000 leaders from Petrobras, partner and affiliated companies, preparing managers to welcome, understand and develop people in this Journey. Furthermore, the Petrobras Human Factors Trail, a strategic educational solution for Knowledge Management, allows for integrated training aligned with the Academy's state-of-the-art and the know-how of the operational area, and is currently made up of 14 courses, EaD and in-person, which trained more than 60,000 people.

And, finally, to support Human Factors actions at the highest level of science throughout Petrobras' organizational structure, in partnership with PUC-RS, Petrobras University developed and implemented the first Postgraduate Course in Human Factors and Operational Safety in Brazil, training around 100 specialists in Human Factors at the highest level, at the end of their classes.

The success of the Program is reflected in the IAB and TAP indicators, both associated with workplace safety. The IAB, which is the Comprehensive Actions Implementation Index, monitors how much learning is being obtained through comprehensive actions originating from learning committees with events, reflecting a ratio between the number of actions implemented and the total number of established actions. Already in the first year of implementation, in 2023, a result of 94.8% was achieved, exceeding the established target by 105.3%, perceiving a continuous increase in relation to the beginning of the year, following the evolution of the initiatives of the Petrobras Human Factors Conference.

In turn, TAP, which is the Rate of Anomalies with the Potential to Generate Class 4 or 5 Injuries, was developed to further improve the learning process with events, allowing the identification

of precursors to more serious occurrences, expanding the possibilities solutions proactively. TAP consists of the relationship between the number of events with the potential to generate class 4 or 5 injuries, per million man-hours of exposure. The TAP result in 2023 was 0.57, this being the first year of its implementation.

The Petrobras Human Factors Journey is continuous and adaptive, transforming the company's culture for a fair energy transition and a future with increasingly complex technological and social challenges. Learning is the driving force behind this entire transformation and evolution, ensuring that all Petrobras University training initiatives, in combination with corporate indicators, build capabilities and opportunities for creative, resilient solutions aligned with business strategies. In this scenario, and confirmed by the Petrobras Human Factors Journey itself, people, workers, are not the problem, but rather the solution, heading towards a future of many challenges, but also successes.

### Data Science Trainings

A data-driven organization makes strategic decisions based on accurate and reliable information. By adopting a data-driven approach, Petrobras can identify trends, patterns, and business opportunities, as well as optimize processes and improve operational efficiency, in order to face the challenges of the energy sector more assertively and achieve sustainable results over the long term. Furthermore, the use of advanced data analysis techniques contributes to the identification of patterns and behaviors, enabling the creation of innovative solutions and the development of new products and services.

In the “Artificial Intelligence and Analytics” knowledge area we have 361 employees attending the Data Science Training Program, which already has 154 graduates in the first stage of the Program. Another important corporate training program to support this journey is the Data Analyst Program, which today has 2,712 participants in the initial module and 334 in the advanced module.

As a result of team training, the company has more than 27 thousand dashboards and reports, generating relevant data for improving processes and data-driven decision making. In April 2024, we registered a record of more than 1.5 million corporate accesses to Analytics tools (PowerBi and Spotfire). In the previous 12 months, more than 13.4 million accesses were recorded.

In a pioneering initiative, some data scientists from Petrobras developed, in partnership with Microsoft, their own Generative AI platform called ChatPetrobras. By June/24, the platform totaled more than 1.2 million interactions, effectively assisting the company's work routine. The tool gained two major extensions developed by Petrobras itself. The first of these increases the scope of knowledge by incorporating the company's Normative Standards. Now 120,000 users can talk to the standards system that contains more than 25,000 policies, guidelines, process standards, and execution standards. In the second, the user can upload PDF files in real time and ask questions about the content. With these innovations, ChatPetrobras consolidates itself as an indispensable tool for the company's employees.

Another Microsoft artificial intelligence initiative, adopted at Petrobras, was Microsoft 365 Copilot. The company acquired the Early Access Program (EAP), allowing its employees to try out the solution for 10 months. During this period, training was offered that impacted more than 100 employees. Respective feedback was reported to Microsoft in order to contribute to the evolution of the product. In one month of testing, we had: 250 active users who summarized 426 meetings resulting in 520 summarized hours; 384 summarized emails, 476 documents created, and more than 1,100 chat prompts sent. The Company expects to have a total of 2,000 users on Copilot in 2024.

### Leadership development

Since 2020, Petrobras has reorganized its leadership development portfolio, focusing on a humanized leader who values differences, is guided by the company's strategy, demonstrates dedication to delivering results, shows commitment to the company's values and objectives, inspires confidence by taking responsibility for their actions and decisions, aligns speech and practice, connects with themselves, the world, and teams, and develops teams. All programs launched since then have one or more of these development focuses.

To develop soft skills, the PDSP - Soft Skills Development Program - covers 13 topics and has seen more than 14,000 participations in development activities since 2021, being widely used by leaders and employees. Employees also have a specific track to develop their leadership potential or career growth, fostering the training of successors and reducing the risk of a leadership vacuum during succession needs.

Upon taking on a role, new managerial and technical leaders go through the Onboarding Leaders and Consultants' Journey programs. The Onboarding program is for leaders designated less than two years ago. It is based on three pillars: welcoming the new manager, clarifying their role, and establishing networks. The Journey is a space for reflection and exchange of experiences among professionals about the daily work of the consultant, involving the pillars of the role, which are: Improve, Apply, and Develop Knowledge. It also aims to reinforce the importance of collaborative network work.

Additionally, leaders can solve specific problems through the Petrobras Coaching Program, where more than 90% of participants report a positive impact on their activities after a coaching session.

To boost the development of self-awareness skills and socio-emotional and relational competencies among Petrobras managers and consultants, the Leader 4.0 program, through Mindfulness practices, has already trained more than 1,700 leaders, representing Almost 23% of the company's leadership.

Moreover, focusing on the continuous development of Petrobras leaders, specific management and leadership issues are addressed in programs for Middle Management and Successors and Senior Management and Successors. The Make It Happen program, with more than 2,800 leaders trained, and the U-Lead program, with more than 500 leaders trained, total more than 10,700 participations in the programs, the latter aimed at Senior Management and Successors.

In 2024, we are offering the Allied Men Program, the Well-being Track, and the Including You Track, whose programs aim at promoting literacy and consolidating a culture of diversity, equity, and inclusion within Petrobras.

Additionally, it is worth noting that the Women's Mentorship Program has been providing women with access to leadership positions within the company. Participation in the program almost doubled in 2024 compared to 2020, with 686 candidates, and the selected women increased from 15 to 60.