



STRATEGIC PLAN

Overall strategy of the centre and oncology strategic plan

2022-2024



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IPO Porto is a reference institution for healthcare provision, education and research in Oncology and has all its activity, as well as its functional organization, centred on the patient. From the organization of the outpatient clinics, through the informatization and reduction of bureaucracy, everything was designed focusing on the treatment of the patient as a whole and not just of the disease, with the highest quality and humanism. In addition to its healthcare provision, IPO Porto acknowledges the importance of innovation in Oncology, as a critical factor in the fight against cancer. This is materialized through the educational and scientific activity, which encompasses basic, translational, and clinical research, delivered by the Department of Education and Training in Oncology (EPOP) and the research infrastructure which results from the consortium between IPO Porto and the Institute for Investigation and Innovation in Health (i3S).

IPO Porto, as a cancer institute, must guarantee fast and easy access to healthcare, which, given the increase in the incidence and prevalence of cancer in the Portuguese population, is not an easy task. Each year, about 10,000 new patients are referred to IPO Porto and approximately 50,000 are followed and monitored, being the largest inpatient and outpatient standalone cancer care provider. IPO Porto has also one of the largest Radiotherapy Services in the Iberian Peninsula located on its premises.

The main goal of the 2022-2024 Strategic Plan is to place IPO Porto/Porto Comprehensive Cancer Centre (P.CCC) as a Comprehensive Cancer Centre of European level. To attain such objective, three strategic axes were defined:

- The patient at the centre
- Quality and efficiency
- Innovation in Oncology

These strategic axes consist of operational programs always aimed at strengthening the organizational culture, improving integration and satisfaction in the provision of care, promoting a global vision, and reinforcing information systems and citizens empowerment.

The activities to be developed will respond to the 3 axes of strategic action, having sought to ensure that they fit into the guidelines issued by the Central Administration of the Health System (ACSS).

This is graphically depicted below:



Brief description of the initiatives

AXIS 1: THE PATIENT AT THE CENTRE

In this axis, IPO Porto materializes its vision of holistic healthcare, maximizing the quality, comfort, efficiency, and humanization of its healthcare system. This will be accomplished through the following initiatives:

CLINICAL CONTACT CENTRE: IPO Porto will reinforce the ability to contact and be contacted by patients and caregivers, emphasizing the reciprocal directionality of useful information flow, and reinforcing the role of this communication channel in the care provision chain, with benefits both for patients and for the institution. Individualized management is a success and satisfaction factor. The Clinical Contact Centre will have a multidisciplinary team, which includes nurses with experience in this kind of call centre, which will apply approved algorithms for patient management, including referral to the Unscheduled Care Provision Service (SANP, which operates 24/7 with the physical presence of Medical and Surgical Oncologists, and nurses). Administrative issues will be dealt by the appropriate professionals. The first steps towards the implementation of this

Centre have been taken and the division of the Ministry of Health which deals with this kind of initiatives (SPMS) has demonstrated interest in collaborating on the implementation.

ONCOGERIATRICS AND CANCER SURVIVORS PROGRAMMES: Population ageing is a widely acknowledged and progressive phenomenon which poses new societal challenges and a special burden upon healthcare services. Cancer is mostly (although not entirely) a disease affecting elderly people, which usually suffer from several comorbidities which not only may limit therapeutic options, but also constitute specific challenges for patient management. Thus, the establishment of a Programme for Oncogeriatrics, including the vast majority of IPO Porto's Cancer Clinics, will help fill this unmet need for dedicated care and management of elderly cancer patients. It is not meant to replace the existing structures, but to provide aid and counselling across the organization, with dedicated personnel (physicians, nurses, professionals from supporting disciplines) experienced in Oncogeriatrics. Furthermore, the increasing effectiveness of cancer treatment has resulted in an increasing number of cancer survivors. Many of these were diagnosed and treated as infants, adolescents, or young adults and during their lifetime experience several morbidities related with their cancer and its treatment. These patients have quite specific needs and require long-term follow-up, in a close collaboration between Oncologists/Paediatricians and General Practitioners, in the framework of a Programme for Cancer Survivors.

DIGITAL EMPOWERMENT: The digital transformation in healthcare has led to new ways of interaction between patients/caregivers and healthcare providers. The COVID-19 pandemic has fuelled digital transformation initiatives and demonstrated the need and the advantage of using digital technologies in healthcare. For several years, IPO Porto has been integrating in its practice devices and technological developments that allow it to take advantage of this ongoing revolution, which is unstoppable and will disruptively transform healthcare.

ONCOHEALTH LITERACY INITIATIVE: Outreach the community is key to the mission of IPO Porto. Over the years, several initiatives have been developed to involve the community and raise awareness about Cancer (e.g., the recently launched podcast "Cancer without fear", which has been very well received by the community). The COVID-19 pandemics has seriously limited external contact with the population that IPO Porto serves, although communication was kept flowing through the social media and networks, as well as through the renewed website. Nonetheless, additional efforts and activities are needed to attain the goals set by the ambitious Europe's Beating Cancer Plan. Thus, through EPOP, several initiatives will be developed to: (1) promote cancer prevention through adoption of healthy lifestyles, (2) increase awareness about the most common cancers and foster adherence to existing screening programs, (3) stimulate short term visits and stays at IPO Porto for health professionals from other institutions of our Region, promoting collaboration and networking, (4) provide opportunities for training of health professionals from other countries (especially Brazil and African countries which hold Portuguese as official language, in collaboration with foundations like the Calouste Gulbenkian Foundation), (5) support training of IPO Porto's professionals in internationally renowned centres, enabling networking and implementation of innovations in healthcare.

RENOVATION OF FACILITIES: Although IPO Porto facilities are globally well maintained, the increased requirements for more and better provision of care entail the need to make renovation works in several areas of the hospital. This includes the extensive remodel of the facilities of the Gastroenterology Service, which will increase the capacity to perform diagnostic and therapeutic procedures, as well as improve safety of patients and professionals. This will also enable the accreditation of this service as

European level training centre. One of the Medical Oncology wards (Building B, 4th floor) requires profound refurbishment to increase safety and efficiency. In the Pharmaceutical Service, remodelling of the chemotherapy preparation unit is ongoing and will increase the safety with which cytotoxic drugs are prepared, and make it more comfortable and secure for the professionals. Furthermore, the construction of two white rooms are planned for the Cell Therapy Service, increasing the capacity to handle the procedures related to CAR-T cells therapy, as IPO Porto is the largest Portuguese centre providing this specialized treatment. Finally, new facilities for the Sterilization Service will be built to address the limitations of the current facilities, increasing safety of handling medical instruments and devices, as well as significantly improving the working conditions.

Initiative	Description	Expected impact	Deadline
Clinical Contact Centre	This centre will have a central and mobilizing role in various internal dynamics with a view to benefiting the following aspects of the relationship with patients, families, and caregivers: <ul style="list-style-type: none"> • Quality perception • Enhance patient and family autonomy • Allow for expectations management • Develop indicators (quality of life, etc.) • Implement APPs, portal for interacting with stakeholders • Optimize patient bookings • Increase patient safety, comfort, and decrease patient burden. 	Increased patient satisfaction; Improved communication and feedback; Greater autonomy and patient safety.	Phase 1: Dec. 2022 Phase 2: Dec 2023 Phase 3: Dec. 2024
Oncogeriatrics and Cancer Survivors Programmes	Elderly patients, with specific co-morbidities which limit therapeutic strategies, and cancer survivors constitute an increasing population with specific needs. These programmes are intended to provide for expert help and advice across the organization and collaboration with primary care institutions.	Increased quality of care; Improved quality of life; Increased patient satisfaction.	Phase 1: Dec. 2022 Phase 2: Dec. 2023
Digital empowerment	Development of informatic tools capable of ensuring a safe and convenient relationship for the patient, following all the innovation that “digital” will bring to health in the coming years (m-health, e-health, u-health).	Patient empowerment; Improved communication; Greater autonomy and patient safety.	Several initiatives implemented, some of them ongoing, until Dec. 2024
OncoHealth literacy initiative	Promote educational and training initiatives targeting the community and health professional to increase the efficiency and quality of cancer prevention and care.	Increase cancer awareness; Improve adherence to cancer screening; Strengthen regional and international networks; Improve patients’ and professionals’ satisfaction;	Several initiatives implemented, some of them ongoing, until Dec. 2024
Renovation of facilities	Build or renew facilities dedicated to direct patient care or providing assistance to therapy development and preparation.	Increased quality of care; Increase efficiency of patient management; Promote energy saving; Increase safety at workplace; Improve patients’ and professionals’ satisfaction.	Several initiatives implemented, some of them ongoing, until Dec. 2024

AXIS 2: QUALITY AND EFFICIENCY

Because IPO Porto is the largest standalone cancer centre in Portugal, the quality of care it provides constitutes a benchmark for other institutions and is also perceived by patients. Thus, it must be prepared to deal not only with more patients but also with more complex cases. This means growing in quantity and quality, without losing sight of access, efficiency, and sustainability.

INTEGRATED OUTPATIENT SURGERY UNIT: The current structure of Outpatient Surgery is small and unable to respond to current needs. There is a whole set of outpatient surgical procedures that are not being used because this area does not have the proper structures and circuits to do it. The project to restructure the area related to Outpatient Surgery has the clear objective of increasing the assistance activity performed, allowing to improve the response times of this type of surgery, as well as the circuit and conditions of care provided to patients, increasing the safety of procedures. Thus, the aim is to increase the installed capacity both in terms of surgery rooms and support structures, namely the recovery area. In this way, it will reduce the pressure on the Central Operating Rooms and on the inpatient structures, thus allowing for more complex surgical procedures and less morbidity for the patient (e.g., laparoscopic and robotic). Thus, this investment in Outpatient Surgery will increase access and reduce the average treatment delay.

RENEWAL OF MEDICAL IMAGING CAPABILITIES: The growing demand for diagnostic and therapeutic procedures performed by interventional radiology imposes high pressure on the Service to comply with response times. It appears that despite the increase in the number of periods of operation of the angiography and CT room (shared with the Radiology Service) it is still insufficient for an adequate response (at present this entails externalization of part of the activity, with incurrent costs and less comfort for patients). Furthermore, the fact that the angiograph is at the end of its useful life, without support from the manufacturer, there is a real risk of permanent damage, jeopardizing the provision of care and the need to resort to external entities. The acquisition of the hybrid angiography/CT room will increase the responsiveness, as well as enable the performance of more complex procedures with significant gains in terms of time and safety for the patient. Furthermore, upgrade of the existing Magnetic Resonance equipment will enable the Radiology Service at IPO Porto to carry out exams with greater image precision and more advanced techniques. Thus, IPO Porto will have access to the latest technology, increasing the useful life of the equipment, as an alternative to acquiring new equipment in the short term, which would imply a much larger investment. The X-ray equipment in the Brachytherapy Service is at the end of its life and should be replaced by a CT scan. IPO Porto is the only hospital in Portugal providing brachytherapy procedures and, thus, holds the responsibility of maintaining its activity and serve the whole National Health Service. With the new equipment, it will be possible to use CT images during brachytherapy treatment, allowing for a more accurate assessment of the radiation dose to the tumour and adjacent organs, with an impact on the quality of treatment and reduction of toxicity and complications. Furthermore, the replacement of the RX equipment by one with CT will allow for gains in the productivity of both Brachytherapy and Radiology Services. The acquisition of a new digital mammograph, with tomosynthesis, stereotaxis and contrast-enhanced mammography, will allow faster response and better diagnostic accuracy. This acquisition would allow for better diagnostic quality as well as increased productivity, including the implementation of contrast-enhanced mammography for evaluation of response to neoadjuvant chemotherapy in breast cancer patients. Finally, the Nuclear Medicine Service is a national reference for peptide marking. The white room requires refurbishment to comply with current legal requirements regarding the facilities using radiopharmaceuticals. Remodelling will also increase the capacity to carry out exams with innovative

radiopharmaceuticals and assure the autonomy of the Service to prepare them, increasing efficiency and reducing costs.

REGIONAL NETWORK OF CANCER CARE: IPO Porto is directly responsible for the provision of cancer care to approximately 50% of all cancer patients in Northern Portugal and works closely with some other hospitals in the region for referral of patients. Nonetheless, full integration of all cancer care activities, ensuring quality and equity across the region remains an unmet aspiration. Owing to its role within the National Health Service, IPO Porto must lead the initiative of creation of a network of providers and stakeholders. This requires dialogue and consensus with many key players, as well as institutional support from the Ministry of Health. Some features put IPO Porto in a particularly well-suited position to accomplish this goal: it presently coordinates the National Cancer Registry, has trained many health professionals that now practice in other institutions and participates in several relevant European networks (eUrogen, EuroBloodNet, Genturis, Euracan, and Paedcan). The envisaged structure would not only improve the quality of care, but also provide opportunities to further develop clinical research and participation in clinical trials at regional level. This is also in line with the strategy of Europe’s Beating Cancer Plan (creation of Comprehensive Cancer Networks across Europe).

WELLNESS@WORKPLACE: The wellbeing of IPO Porto staff is a major concern and priority for the Board of Directors. Keeping Professionals in good work conditions, physically and mentally fit are key to provide excellent care to patients. Thus, several initiatives are planned to address several constraints which have been noticed, which include refurbishment of restrooms in the services, locker rooms, the common meal room, the cafeteria, etc. Humanization of working places is also envisaged, with active participation of staff, as well as activities to increase teamwork, labour gymnastics, training for management of labour conflicts, and psychological support. The spiritual needs of patients and professionals are also a concern and there is a plan to build in a non-denominational spiritual place that might accommodate followers of any creed, non-believers, etc.

Initiative	Description	Expected impact	Deadline
<i>Integrated outpatient surgery unit</i>	Building a new outpatient surgery unit, in continuity with the Central Operating Rooms, enabling the expansion and flexibility of surgical capacity at IPO Porto. This will also grant the opportunity to define the expansion of the outpatient facilities, which need more space and better conditions to accommodate patients and professionals.	Increased surgical activity; Increase in the outpatient rate for surgical procedures; Reduction of waiting times; Increased productivity of professionals; Greater satisfaction of users, as they will no longer need to be hospitalized to perform procedures that, to date, can already be performed on an outpatient basis.	Dec. 2024
<i>Renewal of medical imaging capabilities</i>	Acquisition and installation of: - Hybrid angiography/CT facilities - MRI upgrade - New CT scan for Brachytherapy - Digital mammograph - White room for Nuclear Medicine Service	Increased patient safety; Increased capacity of response; Decreased waiting times; Motivation of professionals through availability of contemporary technologies;	Phase 1: Dec. 2022 Phase 2: Dec. 2023 Phase 3: Dec. 2024
<i>Regional network of cancer care</i>	Design and construction of a network for integrated cancer care in Northern Portugal, enabling more efficient collaboration in cancer patient care and follow-up.	Increased patient satisfaction and safety; Decreased costs for patients and NHS; Opportunities for development of clinical research and professional development.	Several actions along 2022-2024
<i>Wellness@Workplace</i>	Development of several initiatives targeting improvement of facilities used for social contact, teaming and increased physical and psychological fitness.	Increase the satisfaction and wellbeing of IPO Porto professionals; Increase quality of patient care.	Several actions along 2022-2024

AXIS 3: INNOVATION IN ONCOLOGY

Through this axis, we aim to consolidate IPO Porto's leadership in Innovation and R&D at national level and foster international collaborations. The initiatives comprise a major research project (TeamUp4Cancer) which aims to bridge basic/translational/clinical research, a clinically oriented project on Precision Oncology, development of AI tools to assist clinical practice and patient care, and implementation of Value-based healthcare principles in institutional management. The main action vectors are:

PATIENT-FOCUSED RESEARCH (TEAMUP4CANCER): This project aims to identify novel and accurate approaches to diagnose, monitor, treat and improve the lives of cancer patients and their families. By providing training and research opportunities using state of art technology, we hope to establish a transdisciplinary cancer care community that collaborates to effectively improve patient care. P.CCC will fuel knowledge into innovative cancer care and therapeutic strategies, impacting clinical management guidelines. We have secured public funding in the amount of 17,5M€ to accomplish this project, which has four main domains:

Domain #1 - Biomarker discovery: For most cancers, successful prevention depends upon accurate evaluation of risk, whereas successful treatment depends on early cancer detection and correct identification of therapy responders. Hence, we will characterize tumour cells and tumour-associated populations, genomic and transcriptomic profile of cancer and cancer associated cells using high-throughput next-generation sequencing and obtain a comprehensive molecular portrait of heterogeneous cancer cell populations at the single cell level. Moreover, we will quantify and validate novel cancer biomarkers (nucleic acids, proteins, glycans and metabolites, as well as extracellular vesicles) in tumour tissues, blood, and other tissue specimens.

Domain #2 - Innovation in Cancer Care: We will invest in the development and clinical evaluation of innovative tools. This topic requires an effort to establish new methodologies for diagnosis such as analyses of circulating tumour material and evaluation of novel targets for therapy using diverse experimental models. To present the ultimate proof of their impact in cancer, research driven clinical trials will be stimulated.

Domain #3 - Pre-Clinical Models to Bridge Research and Clinical Care: Lack of relevant preclinical models that reliably recapitulate the complexity and heterogeneity of human cancer has slowed down the development and approval of effective anti-cancer therapies. Human patient-derived organoids have enabled disease modelling. However, to propel early phase clinical trials, we need to develop experimental in vivo models that allow for more accurate pre-clinical studies. Advantages of preclinical models include greater simplicity and lower variability of factors, such as genetic variations, tumour microenvironment, drug metabolism, and host immune responses.

Domain #4 - Investigator-driven Clinical Trials: Early phase and investigator-driven clinical trials need to guarantee safety conditions for patients. Thus, we will: set-up and optimize the organizational structure to speed up these trials and support sponsors to increase phase I trials; increase inter-institutional (national and international) networks for patients' referral; focus on biomarker-driven, immunotherapy and cell-based clinical trials; establish up-to-date clinical data collection and processing. A major goal is to complete the developmental pathway from biomarker discovery to clinical practice using biomarker-directed therapies.

PRECISION ONCOLOGY PROGRAMME OF IPO PORTO (POP-IPOP): As the knowledge about cancer biology evolves and the accessibility to sequencing technologies increases, genome-driven cancer treatment establishes as a valuable strategy. Pinpointing specific molecular alterations, such as microsatellite instability, high mutational burden, somatic or germline mutations, or even particular gene fusions, has proven to drive treatment allocation and to enhance the clinical outcome in oncology. In

the last years, genetic biomarker determination has become standard for specific tumour types, such as non-small cell lung cancer or melanoma, though the widespread and systematic use of genetic profiling remains limited in the routine clinical practice. Although next generation sequencing (NGS) attempts to be a pan-cancer tool that allows the identification of actionable molecular alterations for an affordable cost and in a feasible timeframe, it will be necessary to identify the subgroup of patients that will most benefit (and when) from the molecular profiling. Precision Medicine has the potential to revolutionize cancer care, especially for patients with hard-to-treat tumours, which include both the common advanced tumours after multiple-lines of therapy and rare malignancies. Although being individually uncommon (incidence <6/100,000/year), rare tumours constitute an unmet medical need as they gather for 20-25% of adult cancers burden and contribute to 30% of cancer-related mortality. Clinical management of rare malignancies is challenging, not only because of the scarcity of information about the diagnosis but also due to the lack of standard recommended regimens with supporting high-quality evidence. To translate the molecular profiles into clinical benefit for the patients, the establishment of a multidisciplinary molecular tumour board (MTB) is of outermost importance as the success of a molecular screening program relies on a continuous institutional commitment. With the Precision Oncology Programme of IPO Porto, we aim to perform genomic screening in a cohort of paediatric and adult patients with rare and hard-to-treat tumours. This program attempts to portray the landscape of molecular alterations and to build evidence supporting the MTB recommendation of molecularly tailored treatments. Ultimately, this study may offer the opportunity for the identification of patients who may benefit from further targeted therapies when standard-of-care regimens have failed or even for the prompt subject enrolment into biomarker-driven clinical trials.

AI TOOLS FOR ONCOLOGY: Information technologies (IT) are key to achieve new standards of patient care and management. IPO Porto has invested, over the years, in IT development, including the complete transition to EPR (started in 2008 and completed in 2012) which has enabled the development of other projects in this area. More recently, the use of artificial intelligence (AI) tools has opened new opportunities for improving IT systems and providing ancillary tools for clinicians and patients. In this context, three projects are under development at IPO Porto, all of them publicly funded (through FEDER and SAMA):

TMN (Text Mining, Infrastructure and Network): will allow the services to be equipped with IT tools that have improved their performance and capacity and response quality, including AI on the clinical process, for the provision of care to patients of higher quality.

METIS (Medical to Text, Infrastructure and Security): will make it possible to provide services with IT tools that have improved their performance and capacity and response quality, including artificial intelligence for voice recognition, to provide care to patients of higher quality.

ONCOLOG(IA) (Artificial Intelligence in Oncology at IPO Porto): will allow the services to be equipped with IT tools that improve their performance, capacity, and response quality, including specific AI tools for the areas of Radiology (comparison of tumour dynamics pre- and post-therapy) and Dermatology (imaging-based monitoring of cutaneous lesions suspicious for cancer), for the provision of higher quality care to IPO Porto patients.

VBHC@IPOPORTO: Value-based healthcare (VBHC) consists of an innovative model to deliver healthcare based on health outcomes, i.e., prioritizing and rewarding the actions which lead to improvement of patients' health and satisfaction, reducing the negative impact of disease upon patients and organizations and promoting healthier behaviours an evidence-based way. At IPO Porto, VBHC initiatives are led by a specific service – the Outcomes Research Laboratory (ORLab) – in close cooperation with a research group – the Management, Outcomes Research and Economics in Healthcare

- which develop several projects aiming to assess the impact of novel technologies in patient outcome and financial sustainability. Several of these projects derive from international collaborations (e.g., with the Cancer Outcomes Research Working Group from OECI; IQVIA). Owing to this experience and strategic interest, IPO Porto has become a founding member of DIGICORE (Digital Institute for Cancer Outcomes Research). In September 2020, the Quality-of-Life Programme (QoLPro) was launched at IPO Porto, systematically assessing the impact of innovative therapies. We aim to further develop this area through the progressive extension of QoLPro to all outpatient clinics at IPO Porto and making available the results of the evaluation to attending physicians, in real-time, enabling QoL-driven therapeutic and monitoring decisions. Furthermore, we plan to design and implement Clinical Pathways for all the major cancers, allowing for improved efficiency and quality in patient management, as well as increased patients' satisfaction.

INNOVATIVE MANAGEMENT: With the approval by the Minister of Health of the revised version of IPO Porto's Internal Regulation, finished in October 2021, a new management structure was created, reviving the Medical Departments. However, it now consists of multidisciplinary management teams, comprising a medical Head of Department, a senior Nurse, a senior Manager and, when appropriate, senior Technicians (e.g., in the Department of Imagiology and Radioncology), as well as technical advisory board in which all medical directors of the department, head nurses and head technicians sit. This was envisaged to democratize and make more participative the management of medical departments. Furthermore, an internal production contract has been tested for some surgical disciplines and will be extended to all medical services in 2022, aiming to increase efficiency and commitment with IPO Porto's goals and responsibilities towards patients and stakeholders. This innovative approach for IPO Porto is ongoing, being closely monitored directly by the Board of Directors, with periodical meetings and discussion with the Department Management Councils.

Initiative	Description	Expected impact	Deadline
Patient-focused research (TeamUp4Cancer)	Identify novel and accurate approaches to diagnose, monitor, treat and improve the lives of cancer patients and their families, through discovery and validation of cancer biomarkers, development of new methodologies for diagnosis, establishment of new preclinical models and implementation of researcher-driven clinical trials which include drug repurposing.	Carry out the B3 concept – from bedside to bench and back - with pioneering projects; Strengthen research activity, promoting advances in the area of cancer diagnosis and treatment; Strengthen translational, basic, clinical, and epidemiological research through networking with national and international partners; International recognition of the value of national research; Increased ability to attract international partners and funding; Speed-up pre-clinical studies facilitating transition to early phase clinical trials; Expand clinically oriented research.	Several actions along 2022-2027, with interim evaluations of results and progress.
Precision Oncology Programme of IPO Porto (POP-IPOP)	This Programme is a tumour type-agnostic prospective observational study to evaluate the feasibility of using molecular profile-based evidence to propose individualized cancer therapy for patients with advanced/refractory rare or hard-to-treat cancers. All eligible and consented patients will have their tumour tissue or blood samples profiled by NGS (in-house testing or outsourced if need for any specific indication that may arise) and the sequencing results will be systematically reviewed and discussed within a multidisciplinary MTB. Namely, the identified alterations will be classified in regard to their actionability, that is, their likelihood of being a therapeutic target, and by the availability of drugs that hit either the target or the pathway activated by the target. Ultimately, the MTB will provide clinical recommendations and prioritize for the subsequent clinical management. An additional blood sample will be collected and stored for future biomarker assessment.	Deliver Precision Oncology to patients without further standard therapeutic strategies available, at local, regional and national level; Develop and make available for clinical use cutting-edge genomic analysis tools; Assess the outcome of patients enrolled in genome analysis-based therapeutic decisions; Expand clinically oriented research.	Several actions along 2022-2024
AI tools for Oncology	Develop and make available for clinical practice IT tools resourcing to AI, to enhance quality of cancer care, allowing for improved performance and efficiency. Three main projects already in development: TMN (Text Mining, Infrastructure and Network), METIS (Medical to Text, Infrastructure and Security) and ONCOLOG(IA) (Artificial Intelligence in Oncology at IPO Porto).	Increase IT capabilities of IPO Porto; Improve quality and safety of care; Enhance efficiency; Increase patients' satisfaction.	Several actions along 2022-2024
VBHC@IPOPorto	Implementation of VBHC principles at IPO Porto, through the development of projects aiming at assessing the effectiveness of innovative therapeutics and diagnostic technologies, including the impact on quality of life.	Enhance effectiveness of medical interventions; Establish a culture of patient outcome-driven management decisions; Disseminate QoL assessment across all outpatient clinics; Implement clinical pathways for major cancers; Increase patients' satisfaction.	Several actions along 2022-2024
Innovative management	Installation of Department Managements Councils and Technical Advisory Boards, enabling participated management and shared accountability. Implementation of internal production contracts with all medical services.	Enhance democratization and participation in management of medical departments; Improve efficiency and accountability; Increase professionals' satisfaction and identification with the mission and goals of IPO Porto.	Dec. 2022

A roadmap to sustainability

The implementation of the strategic plan implies that IPO Porto must be a sustainable institution, seeking continuous improvement as a fundamental attitude in its activity and organizational development. In this context, strategic planning is a mandatory part so that evolution and growth are carried out with an alignment with strategic and operational objectives. Thus, a brief appraisal of IPO Porto's sustainability at economical, societal, and environmental level is provided below.

The main activity of IPO Porto is the provision of healthcare, which represents more than 90% of the Institution's operational income, almost all of which refers to services provided under the Programmatic Contract, signed each year between IPO Porto and the Ministry of Health. This document defines the maximum quantities per production line and respective reimbursement, institutional incentives attributed according to the fulfilment of objectives related to access, performance, efficiency, and economical-financial sustainability. It is also worth mentioning the activity performed by IPO Porto for other institutions of the Ministry of Health, that represents almost 2% of the operational income of the Institution.

The current model of public hospitals funding in Portugal does not include specific funds for carrying out investments or research projects, making it essential to resort to external financing opportunities. Hence, in addition to the funds obtained through the Programmatic Contract, IPO Porto has sought to capture revenue in other ways over the last decade. For the years 2022-2024, various initiatives will be carried out, including attraction of new customers in innovative areas (e.g., projects on Value-based healthcare (VBHC) developed at Outcomes Research Lab, provision of specialized services in genomics, radiotherapy, and medical imaging) as well as an increase in the accrual of new clinical trials and in the success rate of scientific research projects applying to competitive national and international funding.

IPO Porto's financial results are very much influenced by the maximization of the use of the installed capacity. Thus, there is a clear strategy to internally carry out initiatives which may result in reduction of costs through more efficient management of resources, avoiding externalization of services as much as possible [e.g., implementation of techniques of genomic analyses, advanced techniques in medical imaging, increase of blood donation to reduce the costs of acquisition of blood derivatives from the Portuguese Institute of Blood and Transplantation (IPST)]. Furthermore, IPO Porto provides services to other public and private healthcare institutions [e.g., genomic analyses (FISH, NGS), ¹⁷⁷Lutetium-based prostate cancer therapy, radiotherapy, CAR-T cells therapy, etc.), for which IPO Porto takes full financial responsibility in most situations.

IPO Porto will continue to develop work procedures which promote the efficient management of resources, both human and structural, ensuring excellence in the quality of the services provided.

IPO Porto bases its activity on high quality standards, not only in healthcare provision, but also in areas of social responsibility and sustainability. This is demonstrated through certification/accreditation of the Institution and its Services, as well as through recognitions/awards credited to IPO Porto in initiatives promoted by external entities:

- Re-Accreditation by CHKS – Caspe Healthcare Knowledge System, awarded/renewed in April 2020;
- Certification under ISO 9001:2015 standard, awarded by CHKS in April 2020, including the six Reference Centres of IPO Porto (Hepatobiliary Cancer,

Oesophageal Cancer, Rectal Cancer, Soft Part and Bone Sarcomas, Testicular Cancer, and Paediatric Cancer) acknowledged by the Portuguese Directorate-General for Health (Ministry of Health);

- Accreditation as Comprehensive Cancer Centre, awarded by the Organization of European Cancer Institutes (OECI) in May 2017;
- Accreditation of the Bone Marrow Transplantation and Cell Therapy Services by the Joint Accreditation Committee ISCT & EBMT (JACIE), awarded in December 2014;
- Membership of European Reference Networks - eUrogen, EuroBloodNet and Genturis - and the recent acceptance (2021) as member of Euracan and Paedcan
- Honourable mention in the Sustainable Health Award 2017, in the criterion of Clinical Quality and Health Results, a joint initiative between Sanofi and Jornal de Negócios.
- 2018 Hintt Award in the "Clinical Outcomes" category with the "Vision" project – an informatic platform that analyses, records and forecasts results in cancer treatment, allowing for an integrated view of the patient and a faster and more effective response;
- Prize for Best Future of Work Project (Portugal Digital Awards 2021) awarded to the project Gentil - Text Mining, an innovative tool for faster and integrative access to patient electronic records.

In terms of social responsibility, IPO Porto ensures:

- Promotion of equal opportunities, respect for human rights and non-discrimination: procedures applicable in terms of recruitment and selection of personnel, in matters of acquisitions and services, in terms of respect for the diversity of spiritual and religious assistance;
- Scrupulous respect for the applicable legal and regulatory norms, namely, with regard to the protection of the environment, social and fiscal obligations;
- Positive action measures in favour of maternity (e.g., not considering absences due to maternity in the calculation of absenteeism);
- Assessment of psychosocial risks at work and promotion of good physical and psychosocial working conditions, through the implementation of specific methodologies for identification, assessment and planning of improvement actions;
- Adoption of transparency, information, participation and consultation policies and procedures in relation to social actors (supervisors, users, professionals and public opinion), namely using the IPO Porto Portal and other means, as well as communication and information technologies (Normative Bulletin, e-mail, panels, posters, leaflets, etc.);
- Contribution, through its action, to the significant increase and improvement of national and regional convergence in economic, social and health aspects, in the technicality index, in the level of skills and performance.

The IPO Porto bases its activity on the public interest and the satisfaction of collective needs, having as its main reference the cancer patient and their needs, in a context of economic and financial balance. Annually, it develops initiatives within the scope of Prevention and Community Education, through screening programs and awareness campaigns open to the entire community. In recent years, IPO Porto has carried out

several programs to raise awareness of the importance of preventing and controlling risk factors and promoting healthy lifestyles in the community.

It also plays an important role in the dissemination of best clinical practices through the participation of IPO Porto specialist physicians in consultations at other hospitals and the creation of multidisciplinary group consultations to discuss clinical cases in other hospitals.

IPO Porto is a key player in the official cancer screening programmes in Northern Portugal (which is its area of influence). Thus, since 2010, IPO Porto is the central reference laboratory for the cervical cancer screening programme of Northern Portugal, receiving all samples collected within the framework of this initiative (approximately 100,000/year), performing hrHPV genotyping (first line test) and cytological examination (triage test). More recently, IPO Porto was one of the institutions that participated in the pilot project for colorectal cancer screening in the same region and participates actively ever since (more than 100 colonoscopies/year). These two programmes are managed in close cooperation with the Northern Regional Administration for Health (ARS Norte), a branch of the Ministry of Health. Finally, IPO Porto receives an important proportion of breast cancer suspects identified through the breast cancer screening program, managed by the Portuguese League Against Cancer.

IPO Porto welcomes every year hundreds of students from the area of Health Sciences (Medicine, Nursing, Paramedics, Laboratory Technicians) and it also provides training to health professionals from other institutions, both Portuguese and international (especially from Brazil and African countries which have Portuguese as official language). This latter cooperation also includes on-site training in African countries provided by IPO Porto professionals.

Finally, through its Research Centre and connections with national and international universities (among which the University of Porto stands as the main partner), IPO Porto hosts research trainees, MSc and PhD students, as well as Post-doctoral fellows, thus contributing actively to advanced scientific training.

Respect for the Environment is part of IPO Porto vision within the scope of responsibility and accountability principles associated with the management of healthcare services and listed in its Code of Ethics. These values are taken in consideration in its activities to promote the health of patients, visitors and caregivers, employees, suppliers, service providers and other users of IPO Porto facilities. IPO Porto Accreditations/Certifications include an environmental component, which is assessed during the respective assessment audits.

As an example of this strategy, IPO Porto has secured funding [“Operational Program for Sustainability and Efficiency in the Use of Resources” (POSEUR - Portugal 2020)] for an ongoing project aimed at the implementation of a set of measures in six key areas of energy consumption and thermal comfort in the institution, enhancing energy efficiency, intelligent energy management and the use of renewable energies. The six key areas identified are: (i) Thermal insulation on exterior walls and rooftops, (ii) Glazed surround of the south façade, (iii) LED lighting, (iv) Centralized technical management, (v) Thermal solar energy and (vi) Photovoltaic solar energy.

IPO Porto recognizes the importance of environmental management as a guarantee of sustainable development, assuming the commitment to:

- Implement good environmental practices in healthcare provision activities;
- Review and continuously improve the environmental management system;
- Prevent pollution;
- Ensure compliance with legal and other requirements voluntarily assumed;

- Promote training actions and awareness programs for employees, including service providers who are on its premises, to ensure that they are informed and guided by the same principles of environmental management;
- Influence suppliers about the importance of complying with good environmental practices, making the selection of suppliers that consider themselves "environmentally friendly";
- Raise awareness among patients, caregivers, and visitors to adopt good environmental practices, namely the correct separation of waste and the rational use of water and energy.

There is an active policy regarding environmental management, which made available a set of procedures and manuals aiming to reduce environmental impact of IPO Porto's activity.

The main existing procedures at institutional level with a view to safeguarding environmental issues are highlighted:

- Manual of Good Environmental Practices and Sustainable Development;
- Hazardous hospital waste management plan;
- Medical waste audit plan;
- Audit plan for the sorting, production and conditioning of hospital waste;
- Regulation for the use of IPO Porto recycling centre;
- Sorting and conditioning of hospital waste;
- Elimination of sharp-edged medical devices;
- Elimination of biodegradable waste;
- Elimination of construction waste;
- Elimination of wood residues;
- Elimination of electrical and electronic waste;
- Radioactive waste management;
- Procedure for disposing of clinical samples, instruments, and reagents.

IPO Porto defined and implemented a set of practices to reduce the Institution's environmental impact, which are presented in its Manual of Good Environmental Practices and Sustainable Development. This manual includes the following areas: Water, Energy, Atmospheric Emissions, Liquid Effluents, Chemicals, Hospital Waste and Noise.

In recent years, the IPO Porto has also made an effort to reduce expenses related to the consumption of paper and printing consumables; dematerialization of processes, namely through the implementation of the Electronic Patient Record; optimization of internal correspondence circuits; increasingly resorting to the use of digital communication platforms and/or instruments to the detriment of paper; recently, it fully implemented an electronic document management system. Also, in this context, it should be noted that measures were also identified and implemented on the use of plastic products and alternative solutions were adopted for their use.

These initiatives were developed in accordance with the guidelines for an environmentally responsible printing policy and in accordance with Council of Ministers Resolution No. 141/2018 of October 27, 2018.

One of the general principles of the IPO Porto Code of Ethics is Justice and Equal Opportunities. There is also an equal opportunities and anti-discrimination policy for

professionals and users in accordance with the Code of Ethics and article 13 of the Constitution of the Portuguese Republic. IPO Porto respects and recognizes that human rights must be considered fundamental and universal, basing its conduct on strict respect of this principle. IPO Porto is therefore committed to promoting respect for equal opportunities for all its female and male employees. All labour practices, policies and procedures must be oriented towards preventing discrimination and differential treatment based on ancestry, sex, race, language, home territory, religion, political or ideological convictions, education, economic situation, or social condition.

The Equality Plan of IPO Porto, in compliance with the provisions of Council of Ministers Resolution No. 19/2012, of March 8, assumed the objective of:

- a) Achieve equal treatment and opportunities for men and women;
- b) Eliminate discrimination;
- c) Facilitate the reconciliation of personal, family, and professional life.

Therefore, it is worth mentioning in the Equality Plan of the IPO Porto:

- Its mission includes specific references to gender equality and non-discrimination between women and men. The valuation of professionals is based on merit, with a focus on equal opportunities for men and women. The principles are safeguarded in the code of ethics;
- Selection and recruitment are based on the principle of equality and non-discrimination and discrimination based on gender, as well as compliance with legislation regarding the advertisement of job offers and the maintenance of information treated by gender;
- Within the scope of continuous training, it ensures equal access to training for both sexes, encouraging the frequency of lifelong learning processes and allowing for a break in the career to train employees;
- In the management of careers and remuneration, it includes equality and non-discrimination between women and men in its remuneration policy, promotions and career advancement processes, namely, equal remuneration for work of equal value is ensured, the existence of clear criteria for promotion and advancement that guarantees equal access to higher hierarchical categories or levels for women and men alike;
- Privileges dialogue with male and female employees on gender equality and non-discrimination between women and men, accepting and encouraging the presentation of suggestions in this area and on the reconciliation of professional, family and personal life, through satisfaction surveys carried out periodically;
- It has written rules that guarantee respect for the dignity of women and men, as well as specific procedures for repairing damages in the event of any violation thereof;
- Whenever possible, IPO Porto responds to employee requests, allowing flexible working arrangements, adapting weekly working hours and enabling part-time work, as these are one of the most important indicators for reconciling work and family life it's personal;
- Within the scope of attributing other benefits to employees, IPO Porto promotes cooperation protocols with other companies/institutions for the acquisition and provision of services that facilitate the daily lives of our employees and their respective households;

- Promotes fully impartial developmental activities and encourages participation in them regardless of gender, such as the Good Practice Contest, Christmas Tree Contest, Wellness therapy sessions such as Laughter Therapy, Reiki, Meditation, Yoga, Workshops with varied themes: coaching, Happiness at Work, hygiene and safety at work;
- It has a properly structured reception and integration program for new employees so that, upon admission, they feel integrated in their new workplace;
- Promotes the celebration of festive days, regardless of gender, such as Mother's Day and Father's Day, Family Day and Women's Day;
- It also recognizes the exercise of parental rights and assistance to the family of employees and encourages men to enjoy the voluntary period of leave for the exclusive use of the father;
- Concerning internal and external communication, IPO Porto has procedures for gender equality, communication contents transmitted internally and externally, as well as the existence of processing of statistical data and other information.

Based on the results of a self-diagnosis carried out in 2020, the IPO Porto proceeded to the identification of aspects to be improved to guarantee the matters of gender equality policies:

- Annual preparation of an analysis, broken down by sex, of data relating to recruitment and selection processes;
- Make IPO Porto's strategic planning objectives aimed at promoting equality between women and men explicitly visible;
- Develop positive practices in terms of fighting all forms of discrimination and inequality between men and women in the labour market;
- Promote training with modules related to the theme of equality between women and men;
- Promote protocols to facilitate access to support services for elderly or disabled family members.

IPO Porto annually develops a set of actions aimed at its internal and external population. It uses the motto of world days to involve the community and develop its strategy for social responsibility and promoting investment in health. Some highlights follow:

- Development of initiatives within the scope of Community Prevention and Education, through screening programs for some of the most common oncological pathologies, such as skin tumours;
- Conducting awareness campaigns open to the entire community;
- Carrying out clarification sessions and sharing information with the presence of physicians from IPO Porto;
- Carrying out show cooking's to alert the population for the need to adopt a healthy diet;
- Promotion of awareness campaigns for the need of blood donation and campaigns to attract new donors;
- Collaboration with ARS Norte in cervical and colorectal cancer screening programs;

- Dissemination of best clinical practices through the participation of IPO Porto in consultations with other hospitals and creation of multidisciplinary group consultations to discuss clinical cases in other hospitals;
- Launch of a petition for the creation of the National Day of Hope, a day to celebrate life and pay tribute to all cancer patients, caregivers and health professionals;
- Reinforcement of the relationship between IPO Porto and patient associations by holding periodic meetings and providing a specific space for associations that wish to play a more active role in the Institution and inform patients of their strengths;
- Creation of the Patient Ombudsman in 2019: the patient and their caregivers are the main users of the care processes and, as such, their feedback is essential for the continuous improvement of IPO Porto's activity. In this way, the Patient Ombudsman will be actively consulted, and the suggestions integrated into the activities of IPO Porto.

At IPO Porto there is a centralized and multidisciplinary risk management structure, which includes three sectors:

- a) Environment, Safety and Healthy workplace;
- b) Occupational Medicine and Nursing;
- c) Occupational Psychology.

The integration of environmental risk management with Occupational Health and Safety activities, and the existence of an Occupational Psychology sector are pioneering organizational innovations in the field of Risk Management in healthcare institutions.

In the area of promoting health and safety at work, the following services/areas stand out:

- Occupational Medicine Service is the internal body of IPO Porto that ensures the activities of Occupational Medicine and Nursing and Occupational Psychology. It is responsible for the prevention of accidents at work, occupational diseases, risks in general and for the medical surveillance and health promotion of IPO Porto employees.
- Occupational Safety and General Risk Management Office, whose mission is to promote and maintain the physical and mental health of all IPO Porto employees, through the combined and complementary action of health promotion and risk prevention activities. In organizing the means of prevention, the Office considers not only the employees, but also third parties likely to be covered by the risks of carrying out the work, either on the premises or outside.
- The Local Coordination Group for the Prevention and Control of Infections and Antimicrobial Resistance Program whose activity involves the prevention and control of infections associated with healthcare, being in direct relationship with all healthcare professionals.
- The Disaster Commission, whose mission is to provide technical advice to the Board of Directors, in the context of internal and external emergency (serious accident, catastrophe or calamity). It organizes and prepares the respective plan and its consequent implementation, execution, training, and evaluation.

The Institution has a Procedures Manual on Occupational Health and Risk Management, as well as a set of procedures in the following areas:

- Security Management
- Hospital Security
- Occupational Safety and General Risk Management
- Health at the Workplace

IPO Porto also has a Hospital Risk Prevention Plan, prepared by the Office of Occupational Safety and General Risk Management. An Action Plan and respective goals are presented annually, and the proposal for the 2019-2021 triennium was:

- a) Improve the risk communication system regarding complaints, user forms and incident reports that are within the scope of general risk management, making the responsible services aware of the importance of communicating this type of information (+10%).
- b) Integrate actions to reduce the risks of work overload (-25%) with the creation of a working group to analyse the causes and intervention measures.
- c) Implement measures that reduce the risk of exposure to situations of violence at work (-15%) with the implementation of training, awareness, and information measures. Review the institutional procedure for violence at work through a multidisciplinary group.
- d) Implement measures that reduce the risk of inadequate temperature (-20%) with the implementation of environmental temperature control systems.
- e) Implement measures to reduce IT malfunctions (-10%) through meetings with the IT Service and with other services, with the aim of surveying reported situations. Improve communication with the IT Service.
- f) Implement measures that reduce the number of notifications and accidents at work related to the risk of needle pricks (-10%) in measures such as work equipment with safety and training systems.

IPO Porto has mechanisms in place to detect, assess and mitigate the risk of corruption, bribery, related offenses, and conflicts of interest, which include several Internal Regulations (e.g., Internal Irregularities Communication Regulation) and the Code of Ethics. Furthermore, to control, information, communication, and monitoring activities of the various risks associated with the organization's activity, IPO Porto also has a Management Risk Prevention Plan, including those of Corruption and Related Offenses. This plan is a fundamental tool to support strategic planning and decision-making by the Board of Directors, covering several risk areas (e.g., Human Resources, Purchasing/Public Contracting, Planning and Management Support, Accounting, Facilities, Equipment and Transport Service) with identification of risks, probability of occurrence, impact, and respective preventive measures. An annual report is prepared, analysing the implementation of the preventive measures mentioned in the Risk Management Plan for Corruption and Related Offenses, identifying the degree of implementation of each of the measures identified in the plan, and it is available on IPO Porto website.

In short, we may summarize and highlight some efficiency and productivity gains that ensure sustainability in the medium and long term. Indeed, one of the many guiding principles of IPO Porto management is to respond to the population's health needs in a sustainable way, in its various aspects. Over the last three years, those principles were

translated into a set of assumptions which allowed for increasing accessibility, guaranteeing equity in access and, above all, placing the patient at the centre of care. At IPO Porto, Human Resources represents a significant portion of its expenditure. However, this investment has a direct impact on provision of care and results, as it is effectively the health professionals who make the Organization's performance possible. The existence of adequate and properly qualified staff in the workplace will allow IPO Porto to demonstrate the quality of its healthcare provision in the medium and long term. Notwithstanding all the strategic planning outlined for the Institution and mentioned above, it is important to list, albeit briefly, the measures which are intended to be enforced with expected gains of productivity and efficiency for 2022-2024; namely:

- i.** Minimization of expenses without any loss of quality – there is the possibility of doing more and better at a lower cost;
- ii.** Maximization of income – not only in terms of income from invoicing to third-party responsible entities, but also through better recording of the procedures carried out, namely by increasing clinical coding and auditing;
- iii.** Encourage and support clinical research – improving patients' access to innovative therapies, raising clinical practice to the level of the best in the world and maximizing profits for the Institution;
- iv.** Promoting articulation with primary/hospital care – it is crucial for the referral of patients to be optimized not only in terms of accessibility to IPO Porto, but also, and more importantly, in the follow-up of the patient after discharge;
- v.** Definition of a drug policy and clinical consumption material – at IPO Porto a large part of the budget is allocated to these two items;
- vi.** Reduction of waiting lists – ensuring accessibility within clinically acceptable times is extremely important, especially considering the more aggressive forms of cancer;
- vii.** Further encourage the humanization of services – essential to minimize suffering and improve patients' experience at the institution;
- viii.** The digital patient - The pandemic has demonstrated the need for effective digital structures to dematerialize circuits, processes and, when appropriate, enable remote work, accelerating, in an inclusive way, the ongoing digital transformation. It is a process that will allow important structural efficiency gains. Digital transformation encourages more efficient use of resources and potentially promotes more sustainable behaviours.
- ix.** The Portugal 2030 Strategy has a vision of “Recovering the economy and protecting employment and making the next decade a period of recovery and convergence between Portugal and the European Union, ensuring greater social and territorial resilience and cohesion”. In addition to the thematic agendas, there is another which is focused on climate change and on the sustainable and efficient use of resources, promoting circular economy and responding to the challenge of energy transition and the resilience of the territory. The objective for 2030, among others, is to increase the share of renewable energies in the gross final consumption of energy to 47%; reducing primary energy consumption by 35%, which IPO Porto intends to implement on a large scale, by requalifying or adapting buildings to increase energy efficiency, as well as using photovoltaic energy resulting from the implementation of the POSEUR project and thus contribute to reducing CO2 emissions by 55% in 2030, in line with the National Energy and Climate Plan 2021-2030 (PNEC 2030) and the Roadmap for Carbon Neutrality. This is part of promoting the green transition and digital transformation.

- x. Quality of Life - IPO Porto is committed to evaluate the quality of life of cancer patients and thus perceive the changes experienced by them during the disease process and treatments. The Institution has implemented a project that measures, in real time, the physical, emotional, and social effects of cancer on patients and intends to integrate the results of this assessment into clinical practice. As part of this health value strategy, IPO Porto developed a web platform for automated data collection and processing. It is currently working on the creation of an integrated circuit in patient scheduling that will make it possible to extend the “Quality of Life” project to all patients treated at the institution.
- xi. The negative impact of the COVID-19 pandemic on the assistance activity programmed at the level of the National Health Service is public and notorious. This situation has undoubtedly brought new challenges to IPO Porto, which will be met with the collaboration of all professionals and the understanding of patients. In this context, it is critical to regularize for the year 2022 exceptional situations arising from the consequences of the COVID-19 pandemic during the year 2021, given the constraints that occurred due to changes in circumstances in 2020 and whose effects lasted and continued to be felt in 2021. To do so, we have organized ourselves internally, enabling the services to respond to an extraordinarily high number of patients, due to the increase in demand which is expected to occur.



IPOPORTO
INSTITUTO PORTUGUÊS DE ONCOLOGIA DO PORTO FG, EPE