Our performance in terms of quality, reliability and safety, unprecedented in the industry, makes us the most reliable source for the supply of high-quality radioisotopes for medical use. The unique diversity of our supply chain and the outstanding commitment and skills of our employees have proven to be the key factors of our performance, particularly when it comes to patient safety and supply security of these medical radioisotopes worldwide.

For many consecutive years, we have run our production operations successfully and without interruption, **24 hours a day, 365 days a year, to secure your supply and benefit the health of your patients.** We are pleased to share our performance with you and help you to succeed. **YOUR SUCCESS IS OUR PASSION.**
OUR PRODUCTS

• **99Mo**

One of the most important radioelements produced on our site is molybdenum-99, the “parent” isotope of metastable technetium-99. In combination with a specific molecule, this isotope can reach the target organ and be visualized by a detection system to allow medical specialists to make reliable diagnoses.

**Metastable technetium-99**

Close to 80% of nuclear medicine diagnoses are made using metastable technetium-99. This substance is used in many types of scanning to provide images of the metabolism of various organs such as the heart, bones, lungs, thyroid, brain, kidneys, the gastro-intestinal system, etc.

This technique enables medical specialists to make reliable diagnoses in the case of many diseases such as cancers, infarctions, infections and inflammations, respiratory conditions, degenerative diseases such as Alzheimer’s, and endocrine disorders. In the case of cancer, the main purpose of this type of metabolic activity imaging is to determine the extent of the disease.

• **131I and 90Y**

The radioelements we produce are also used for therapeutic purposes. Radiotherapy involves selectively irradiating tumour targets (such as bones, certain organs, cells, etc.) to significantly improve the symptoms of the disease and can even increase patient survival rates.

**Iodine-131**

The properties of iodine-131 make it more suitable for therapy than diagnosis. It is mainly used in the treatment of thyroid cancer and certain forms of hyperthyroidism. In combination with specific molecules, it is also used for the treatment of other cancers.

**Yttrium-90**

In combination with an antibody, yttrium-90 effectively fights so-called non-Hodgkin’s cancers, which spread in the immune system. This product has been approved by the pharmaceutical authorities in the USA, Europe and Japan. Yttrium-90 is also used in medical devices, where, attached to particles that create embolisation of the liver blood vessels, it irradiates the surrounding cancer cells.

For more information email at info@ire.eu
In order to get closer to patients needs and strengthen our international role as a major player in nuclear medicine, IRE ELiT provides solutions that meet the quality requirements for radiopharmaceutical products and can be directly administered to patients by specialized practitioners for the diagnosis or treatment of diseases.

The extension of our product portfolio is supported by our R&D team and several partners with expertise in different complementary sectors. Our teams are resolutely engaged in research programmes with several universities and research centers, both in Europe and in other continents. This policy of cooperation between industry and academia constitutes a key factor for future developments in the field of cutting-edge radiopharmaceuticals. Our ambition is to provide you promising solutions for your patients. YOUR SUCCESS IS OUR PASSION.

### OUR STRENGTHS FOR YOUR SUCCESS

1. Stable supply chain

2. High-quality products

3. Skilled employees
OUR PRODUCTS

- **Rheni Eo, \(^{188}\text{W}/^{188}\text{Re}\) generator: a beneficial and cost-effective therapeutic solution**

  The latest developments in the use of rhenium-188 relate to cancer therapy (liver, brain, etc.), palliative care for bone pain caused by spreading breast, lung and prostate cancer, the treatment of synovitis and cardiology. Rhenium-188 is produced using a generator that allows *simplified logistics and flexibility* of use ("dose on request"). Tungsten-188, the parent radioisotope of rhenium-188, with a half-life of 70 days, allows the generator to be used for several months. Additionally, the generator is linked to a concentration unit that extends the useful life by a factor of 2 to 3.

  This type of generator, with the concentration unit system, represents a *beneficial therapeutic solution* that makes it possible to considerably reduce the cost per dose.

- **Yttri Eo, \(^{90}\text{Y}\) solution: "one patient, one dose"**

  Yttrium-90 can be used to effectively fight certain lymphomas (non-Hodgkin lymphomas), which are cancers that begin in the immune system (lymphocytes). Yttrium-90 in combination with specific molecules is also used for the treatment of liver cancer.

  Yttrium-90 comes the form of a *sterile and non-pyrogenic solution*. The level of activity is calibrated according to the users’ needs.

- **Galli Eo™, \(^{68}\text{Ge} /^{68}\text{Ga}\) generator: a simple and innovative diagnostic solution**

  Today many tracers for diagnostic imaging PET (positron emission tomography) use the Fluor-18, a radioisotopewith short half-life, produced in a cyclotron near the medical examinations, which requires a long and heavy material and financial investment.

  Gallium-68 is another radioisotope equally favorable for PET imaging with physical characteristics similar to Fluor-18, its half-life is also very short but it has the advantage of being obtained more easily and at lower cost through a generator Germanium-68 / Gallium-68 used directly in the radiopharmacy.

  To facilitate the preparation of radiopharmaceuticals using Gallium-68 without compromising the safety of operators and patients, the Galli Eo™ generator produced by IRE ELIT is a fully integrated, closed system to get rapidly highly concentrated and very pure preparations minimizing loss of activity. The design quite innovative limits the risk of error and contamination. Finally, this generator can be used manually or connected to a synthesis module.

  This optimal system for using labeling kit with Gallium-68 will probably enable, thanks to imaging, a better management of cancer (neuroendocrine cancers, prostate cancer...) and other infectious diseases.

For more information, consult our specific products brochure or email at radiopharmaceutical@ire-elit.eu

Galli Eo™ is a trademark of IRE ELIT
IRE ELiT also provides a range of high-quality services:

- Radioactivity analysis and radiological monitoring systems dealing with humans and environment protection;
- Radiological characterization of waste and facilities;
- Consulting and technical services in a wide variety of activities in the radiation and nuclear fields;
- Dismantling of radioactive sealed sources.

For each of these competences, exchange and proximity to the customer is at the heart of our partnership vision. **YOUR SUCCESS IS OUR PASSION.**

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**OUR STRENGTHS FOR YOUR SUCCESS**

1. **Reliability of the results provided**

2. **Flexibility in your request**

3. **Responsible employees**
• **Radioactivity analysis**

Our laboratory is specialized in the analysis (identification and quantification) of radioactivity on a wide variety of sample types.

We have equipment, infrastructures and qualified personnel that enable us to measure low-activity samples in optimal conditions. Our analytical methods are ISO 17025 accredited. Our laboratories have ISO 14001 certification, testifying to our environmental commitment. We are also a member of the ALMERA (Analytical Laboratories for the Measurement of Environmental Radioactivity) network, established and coordinated by the IAEA.

Using our expertise in environmental radiological monitoring, we also develop automatic sampling and radiation monitoring systems (liquid and gaseous effluents). We manufacture highly efficient equipment for the continuous measurement of radioactivity in the environment (water and air).

• **Radiological characterization**

Our Service of Radiological Characterization offers a customized service for the characterization of radioactive waste and contaminated items by gamma spectrometry (barrels, pipes, containers, facilities, etc.).

We can provide:
- On-site measurements;
- Clearance measurements;
- Development and qualification of characterization methodologies and measuring equipment;
- Training and support for spectrum processing, use of measuring systems and modelling of objects to be characterized.

• **Expertise and consultancy**

Based on our equipment and internationally recognized expertise, our unique team of experts provides private and public companies as well as international organizations with high level of consulting and technical services.

We work in close collaboration with our clients and use all our resources to offer them a solution that meets their specific needs.

• **Sources dismantling**

We provide comprehensive solutions for the dismantling of sealed radioactive sources to ensure that they are handled safely and appropriately. Our service includes characterization, dismantling and repackaging/conditioning. We have all necessary facilities for the dismantling of various types of sealed radioactive sources: smoke detectors, industrial and medical sources, lightning rods, orphan sources.

Our team is also available to provide our expertise for the successful management of your spent sealed radioactive sources at your premises.

For more information, consult our [specific services brochure](#) or email at bus@ire-elit.eu
Being determined to build a better **FUTURE** by contributing to public health and environmental protection. A **FUTURE** that provides access to the most effective healthcare thanks to the production of radioisotopes used in nuclear medicine for both diagnostic purposes (screening for cancerous tumours, analysis of the functioning of organs) and therapeutic purposes (treatment of cancers, palliative care). A **FUTURE**, too, in which the protection of the environment is a priority, thanks to the implementation of technologies for monitoring and measuring the radioisotopes naturally present in the soil, air and water.

**WE PUT OUR TRUST ONLY IN PARTNERS AND SUPPLIERS WHO SHARE OUR CONCERN FOR ETHICS AS A PRIORITY.**

At IRE-IRE ELiT we attach great importance to the human dimension of the business. The quality of social relations within the business is crucial, and aims to be based on transparency and mutual respect.

We manage the business on the basis of five fundamental values: team spirit, innovation, responsibility, competence and partnership.

Resolutely focused on the **FUTURE**, is it your vision of partnership and collaboration?

So, let’s start to talk!
OUR HISTORY

1971
- Creation of IRE and first constructions in Fleurus, Belgium

1973
- Production of $^{131}$I and $^{99}$Mo
- Creation of a radioimmunology department
- Creation of a $^{60}$Co irradiation treatment unit
- First production of $^{123}$I

1978
- Construction of the first cyclotron
- Pharmaceutical recognition
- Creation of the concept for a repetitive elution $^{99m}$Tc dry generator
- Creation of a transport subsidiary: TRANSRAD

1980
- Major investments in the context of the redeployment of radiopharmaceutical activities
- Development of equipment for the remote monitoring of environmental radioactivity and radiological monitoring missions within the Belgian territory
- Major investment by IBA on the Fleurus site (prototype 14 MeV SE cyclotron)

1990
- Expansion of international commercial activities (North America, Asia, etc.)
- Achievement of a leadership position in the production of $^{99}$Mo et $^{131}$I

1991

2000

2008
- Resumption of radiopharmaceutical activities in the diagnostic and therapy sectors ($^{90}$Y, $^{188}$Re, $^{68}$Ga, ...)
- Launch of research partnerships worldwide
- Important IRE role in AIPES (Association of Imaging Producers & Equipment Suppliers)
- Major consultancy contracts worldwide (European Commission, IAEA, etc.)

2010
- Creation of the IRE ELiT subsidiary

2011
KEY FIGURES

MAIN MARKETS

- USA: 27%
- EU: 53%
- Asia: 14%
- South America & Middle East: 6%

Fleurus, BELGIUM

- 95% part of IRE activity for exportation
- 225 full-time jobs provided by the business in Fleurus

INCREASE IN JOBS BETWEEN

- 2010: +53%
- 2015: 225 full-time

INCREASE IN TURNOVER

- 2010: +140%
- 2015:
OUR MISSION

The IRE, or Institute for Radioelements is a public utility foundation. Its main activity is the production of radioisotopes for diagnostic and treatment applications in nuclear medicine. These products are the active ingredients of many radiopharmaceutical medicines. For its part, IRE ELiT is a subsidiary of the IRE and produces several radiopharmaceutical derivatives used in the treatment of certain cancers and in palliative care.

A WORD FROM OUR CEO

“To lead such a company means, above all, being fully involved in the development of people, safety, ethics, autonomy and respect. It means encouraging our teams to keep on innovating to serve tens of thousands of patients who benefit from our products every day.

Let us be ambitious, for ourselves and those patients’ health, and for the environment of our planet, because the only way not to lag behind is to stand in front”.

Jean-Michel Vanderhofstadt
CEO IRE - IRE ELiT

In addition to its production activities, IRE ELiT contributes to the protection of the environment through its services activities focusing on radioactivity analysis in various samples, radiological characterization of waste and contaminated items, consultancy and technical assistance projects in the radiation and nuclear fields and sealed radioactive sources dismantling.

More than MILLION
NUCLEAR MEDICINE EXAMINATIONS ARE CARRIED OUT EVERY YEAR THANKS TO THE MEDICAL RADIOISOTOPES PRODUCED BY THE IRE.
OUR VALUES

In pursuing our mission, the management and personnel of IRE and its subsidiary IRE ELiT are committed to abiding by five key values that have each been broken down into attitudes and behaviours which are the references in the company’s organization.

Innovation

Technological developments in the field of medical imaging and radiotherapy offer huge potential for IRE - IRE ELiT. This is a sector in which the company wishes to position itself and takes an active part in scientific and medical development. The same applies to the environmental sector.

Responsibility

We have a responsibility to ensure that we give top priority at all times to safety/security, quality and the environment, in all the actions taken within the company and in all the decisions we make. This means that achieving production, economic and financial objectives, as well as adhering to objectives within projects, takes second place after safety and quality.

Competence

Maintaining a high level of requirement and quality of work, based on the professionalism and expertise of each member of our staff, is essential in the culture of IRE - IRE ELiT.

Partnership

In its relations with outside partners, IRE - IRE ELiT aims to create lasting and quality relationships based on high levels of ethics and loyalty. This "client-focused and ethics-oriented" dimension is key to adhering to its vision of internationally recognised excellence.

Team spirit

IRE - IRE ELiT manages a significant number of structured projects and multidisciplinary improvement action plans where teamwork is essential to the achievement of objectives with the required level of quality.