# TRACTEBEL

# Medical Applications When nuclear technology saves lives!

engie

# Providing dedicated engineering support to nuclear medicine and radiotherapy key actors

Medical applications of the nuclear technology include nuclear medicine and radiotherapy. Thanks to nuclear, over 30 million people, of which 9 million in Europe, benefit from lifesaving treatments and diagnostic technologies every year.

Both nuclear medicine and radiotherapy require a high-level of expertise, in a highly regulated environment (by nuclear safety and pharmaceutical authorities), to meet the continuously increasing requirements of safe and effective therapies and technologies.

Tractebel offers a large portfolio of engineering and consulting services to all actors of the nuclear medical sector, such as hospitals, radioisotope producers or equipment suppliers.



## **Our approach**

An A-Z engineering value proposition including:

- Strategy & feasibility
- Design & commissioning
- Plant Operation Support
- Decommissioning

## **Client benefits**

A wide range of competences to support your project:

- Regulatory assessment, site characterization, licensing, risk analysis and safety report
- Project management & technical coordination
- Design and BIM: civil work, HVAC, electricity, instrumentation & control, systems and processes, mechanical, fire protection and radiation protection and shielding
- Operation support, facility upgrade
- Decontamination & dismantling strategy, safety report, radioactive waste characterization

## **Our added value**

Our in-depth knowledge in the nuclear and process design fields, combined with our expertise in hospital infrastructures makes Tractebel a unique partner in nuclear medicine and radiotherapy.

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# Tractebel's multidisciplinary engineering skills cover the whole life cycle of your facility.

The success of any project is highly dependent on a clear definition of our **customer needs** and a strict compliance with **international and national standards and norms**. We also ensure an efficient **Quality Assurance** and **Quality Control** system at every stage of the project.



#### **SOME REFERENCES** MEDICAL APPLICATIONS

#### IBA, Louvain-la-Neuve, Belgium Proteus®One Proton Therapy Facility

#### Objective

Review and completion of Proteus®One technical documentation for contracting. Development of a standard design for the main ancillaries of the Proteus®One equipment and its integration into a standardized 3D Building Information Model (BIM).

Definition of scope split and drafting of technical specifications for the detailed design and installation of the standardized facility to host the Proteus<sup>®</sup>One equipment.

#### **Competences involved**

Civil work, process systems, HVAC, fire detection & protection, Electricity, Instrumentation & Control, Health & Safety

#### Added value

Thanks to its expertise in designing new facilities, Tractebel can provide a design review, an overarching technical specification for the Proteus®One building and equipment that complement IBA's supply scope. Our engineers also offer design reports for ancillary systems and 3D Building Information Models (BIM) that include ancillaries and technical specifications for Contractors.

#### PALLAS, Alkmaar, The Netherlands Multi-Purpose Research Reactor

#### Objective

This Owner's Engineering Mission provides the PALLAS team with expertise in engineering and multidisciplinary project management for the construction of a multi-purpose research reactor designed to produce medical radioisotopes and offer material irradiation services.

#### **Competences involved**

This project requires a wide range of skills and cutting-edge expertise in various fields of engineering, project management, public procurement and nuclear regulation and licensing processes.

#### Added value

Tractebel offers its experience in managing multidisciplinary projects and in designing and constructing nuclear reactors. Thanks to its broad expertise in engineering, project management and public procurement, Tractebel provides the first-class support of an integrated project team at PALLAS premises.

#### IRE, Fleurus, Belgium Medical radio-isotopes production facility

#### Objective

IRE produces radio-isotopes for medical applications. The updated nuclear safety standards that resulted from the Fukushima stress tests required to reinforce the production building with a focus on external natural hazards, notably seismic accelerations and meteorological events. Tractebel provides technical support and project management services to IRE to align their production facility with the latest safety requirements.

#### **Competences involved**

Geoscience (seismic studies), structural integrity safety and licensing, fire scenario analysis, project management, plant design & integration

#### Added value

Tractebel offers a tailor-made approach and can leverage in-house multidisciplinary teams. Our highly qualified experts keep their knowledge up to date and adopt «state of the art» practices in their field of expertise. They provided added value to the IRE to deliver the project successfully.