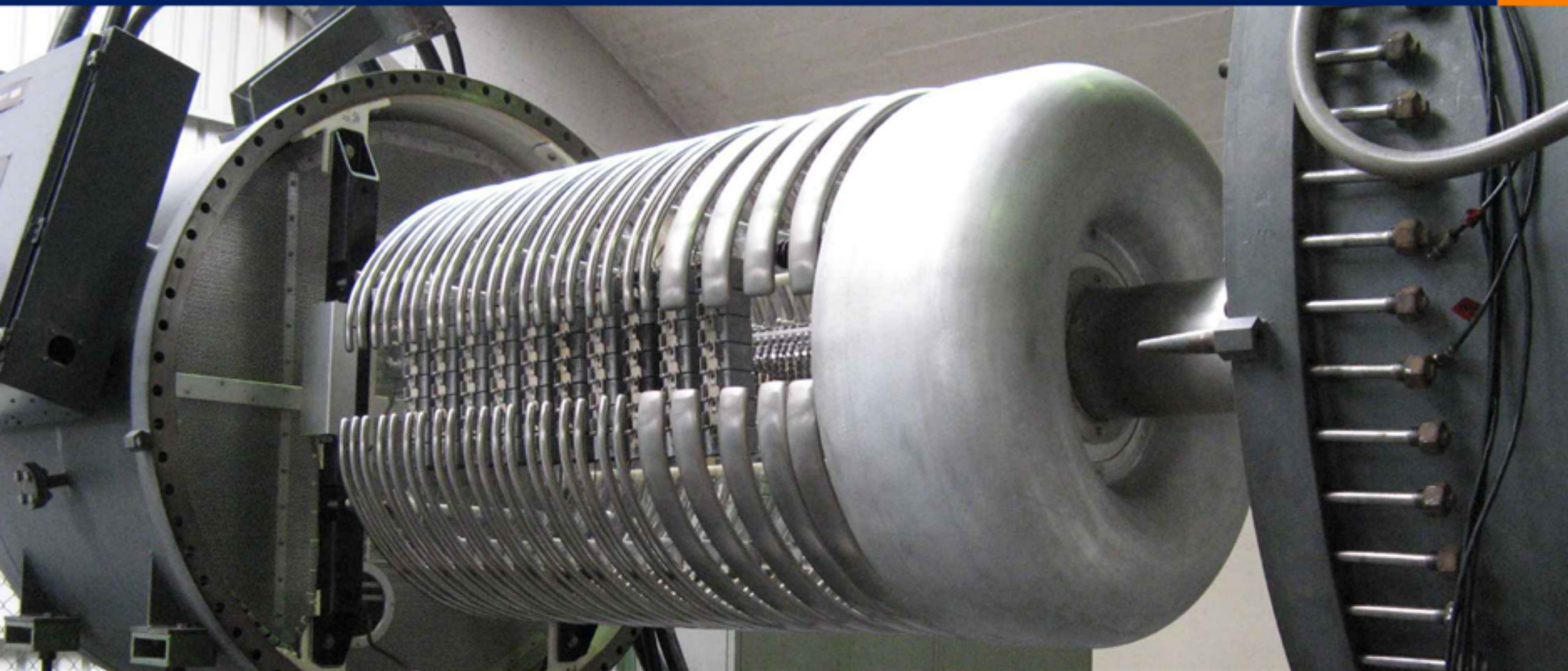


## We repair, maintain and upgrade electron accelerators



Ready to support you

## Multi Services Engineering

www.ms-engi.com



### About us

MSE is a leader in **electron accelerators** relying on a dynamic group of experts evolving on various accelerators types. We collaborate with the best engineers to optimize our customers' equipment quality and secure its most effective operability.

Our team includes

- Field Service Engineers
- Design Engineers
- Dosimetry Experts
- Technical Support Office

We repair, maintain and upgrade electron accelerators from **100 KeV to 10 MeV**.

### Customer Service - Hotline

Our main commitment to our customers relies on our constant availability and fast on-site deployment. Through our dedicated **hotline**, our customer can call for our technical support or on-site support **24/7**.



Brussels - Belgium  
Headquarters

The MSE field service engineers are **“active on call”**  
We offer guaranteed departure to your site within 24 or 48 hours

**Why** choose  
**MSE ?**

1. Priority to customer service and building Relationship
2. Network in the European and global industrial market
3. More than 10 years of technical field expertise
4. Highly skilled engineering team
5. Expertise in dosimetry

MSE is flexible and always seeks to identify tailor-made solutions. At MSE, we believe each customer is different and has specific requirements. Customer Service is our **number one commitment**.

With more than 10 years of technical field expertise, we are the most **experienced service provider** for industrial electron accelerators in Europe

### Services



Our Field Service Engineers repair, and maintain e-beam accelerators. They optimize and improve their operation.

#### Maintenance

- Scheduled maintenance (SM)  
Light or heavy maintenance
- Emergency maintenance (EM)  
High reactivity within 24 or 48 hours

#### Technical support - Hotline

Different channels of communication are available : dedicated hotline, email communication.

- Technical support & advices
- Procedures
- Troubleshooting



#### Dosimetric analysis - Feasibility study



Dose and energy calibrations are critical for your products. We analyse your irradiation needs and determine the adequate treatment for your products.

- Monte Carlo computer simulations
- Real practical irradiation tests
- Regular surface dose calibration
- Energy characterisation (penetration)

#### Dismantling - Installation

We dismantle the complete accelerators facility and take care of the complete installation of your equipment.

- Mechanical & electrical work
- Lifting & packaging
- Planning & transportation



It is our priority to provide tailored theoretical and practical training to our customer operators and staff.

#### Training

- Theoretical training
- Practical training
- Troubleshooting

### Upgrades

MSE upgrades your equipment to improve **reliability** and **operability**

#### CONTROL CONSOLE

Complete up-to-date system  
Tailor-made Hardware & Software  
Adaptability to your needs

#### VACUUM

Fully automated control system  
Higher operational security & reliability  
Protection of the pumps

#### OSCILLATOR

Safe signals monitoring system  
Tuning of components  
Improvement of operation efficiency  
New design for SCR board

#### GAS HANDLING SYSTEM

Ensure safe SF6 manipulation  
Long life expectancy of the gas  
Avoid contamination  
Follows EU regulators

#### SCAN AMPLIFIER new DESIGN

More powerful than existing model  
Fully interchangeable  
Monitoring of each transistor

#### RADIATION SHIELDED CAMERA

Integrated lead casing  
Easy installation  
Inexpensive

MSE can supply 100% of the **spare parts** and **consumables** for your accelerator

We **provide** the spare parts for the maintenance of your electron accelerator.  
We **advise** about the critical components for your Recommended Spare Part List (RSPL).  
We **repair** and **recalibrate** damaged parts and components.

- Titanium windows and seals
- Oscillator tubes (150, 225, 375 kW)
- Sealed electron tubes
- RF transformer pies
- Rectifier stacks
- Control console spare parts (PLC,...)
- Vacuum pumps and components
- Filament transformers (150,225,375 kW)
- Scan amplifiers
- Beam production system
- HV capacitors, resistors strings (BTD, HVD)
- Scan coils, steering coils, focus coils
- Optics power supplies
- PCB, circuit breakers, relays
- O-rings, gaskets,...
- Others

MSE can provide **old control console spare parts** like the Millenium, DPC1000 and DPC2000 components. Contact us, we will help you to keep your old systems running longer.