ATRON METROLOGY

Our services

CALIBRATION OF SURVEY METERS

« An innovative calibration method, without radioactive sources »

Absence of radioactive source

reduction of health and environmental risks

Full support

corrective maintenance of all models including contaminated instruments and reduced downtime

Metrological mastery

COFRAC accreditation n°2-6778, traceability of beam qualities, control of environmental measurement conditions

The Calibration of radiation survey meters consists of measuring the characteristic quantities of the instrument, which are provided by its calibration certificate using standard sources. This obligation applies, for example, to survey meters calibrated in ambient equivalent dose rate.

ATRON Metrology provides calibration and calibration verification of probes, survey meters, beacons, using realistic radiation fields connected to a standard source. This breakthrough method and the result of three years of research, was developed in partnership with the CNRS / LPC Caen and the CEA / LNHB.

+33 261 819 990
contact@atron.fr
www.atron.fr/en

ATRON Metrology
14 allée des Vindits
50130 Cherbourg-en-Cotentin, France

cofrac ETALONNAGE

Accreditation N° 2-6778
available on www.cofrac.fr

ATRON METROLOGY

Our services

RELIABILITY OF EMBEDDED SYSTEMS

« The qualification of your equipment in extreme environments »

X or electron irradiation

determination of total ionising dose (TID) effects on components and systems

Design and construction of equipment

proper functioning tests for hostile environment, establishment of preventive maintenance plans

Modelling tools

optimisation of the resistance of electronic equipment to the effects of ionising radiation and dimensioning of shielding

The growth of ever more complex information systems in the space, aeronautical, nuclear or defence industry leads to consideration of the impact of ionising radiation, of natural (such as cosmic) or artificial origin, on these components or integrated systems.

ATRON Metrology has a radiation source that faithfully reproduces the environmental conditions to which these systems may be subjected too in terms of doses and dose rates, as well as temperature and atmosphere.

+33 261 819 990
contact@atron.fr
www.atron.fr/en

ATRON Metrology
14 allée des Vindits
50130 Cherbourg-en-Cotentin, France

ATRON METROLOGY

Our services

TREATMENT OF MATERIAL BY IRRADIATION

« A technological platform at the service of your R&D work »

Various means of irradiation

faithful reproduction of specific irradiation conditions and control of environmental conditions

Experimental approach

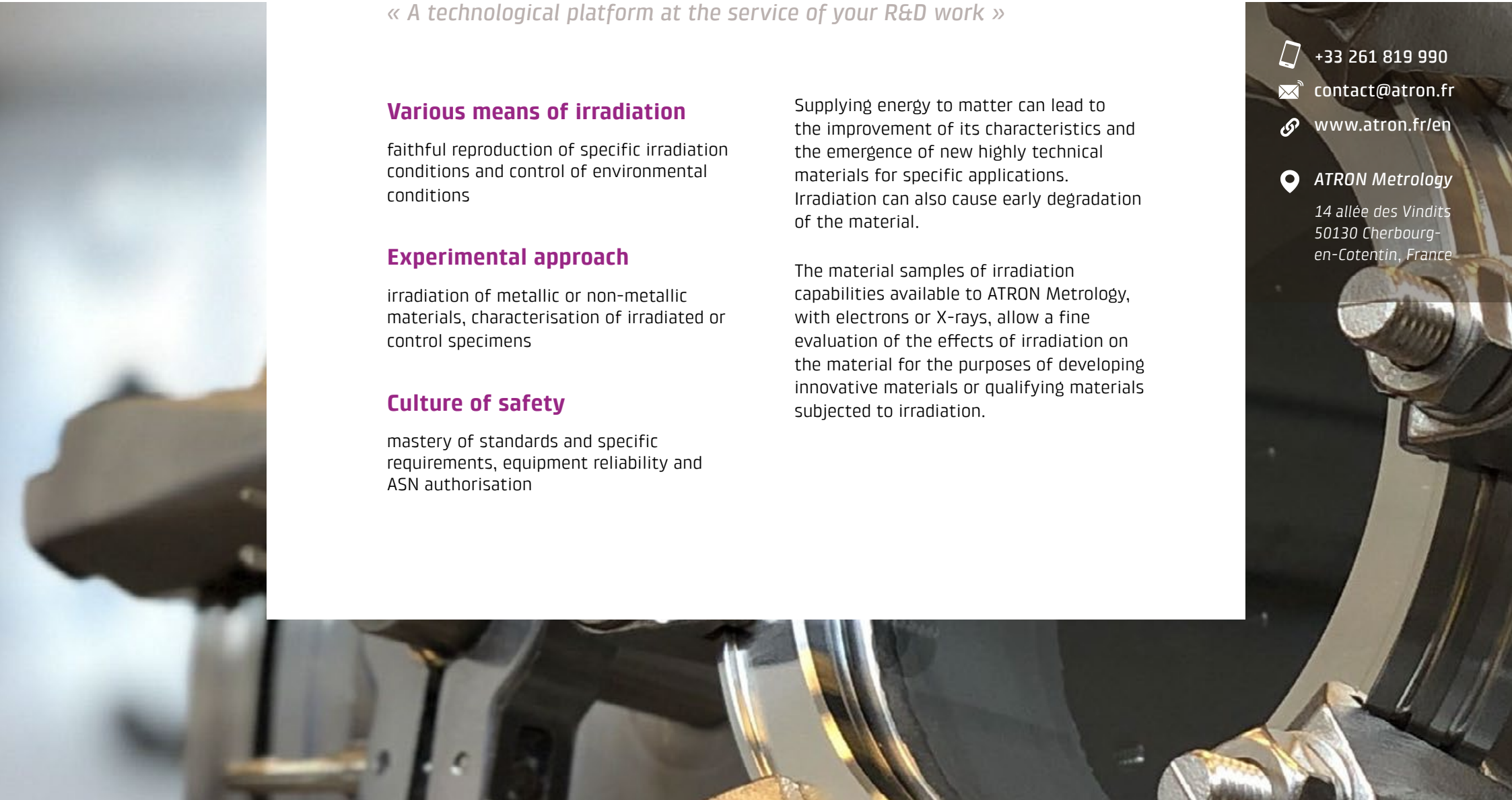
irradiation of metallic or non-metallic materials, characterisation of irradiated or control specimens

Culture of safety

mastery of standards and specific requirements, equipment reliability and ASN authorisation

Supplying energy to matter can lead to the improvement of its characteristics and the emergence of new highly technical materials for specific applications. Irradiation can also cause early degradation of the material.

The material samples of irradiation capabilities available to ATRON Metrology, with electrons or X-rays, allow a fine evaluation of the effects of irradiation on the material for the purposes of developing innovative materials or qualifying materials subjected to irradiation.



+33 261 819 990
contact@atron.fr
www.atron.fr/en

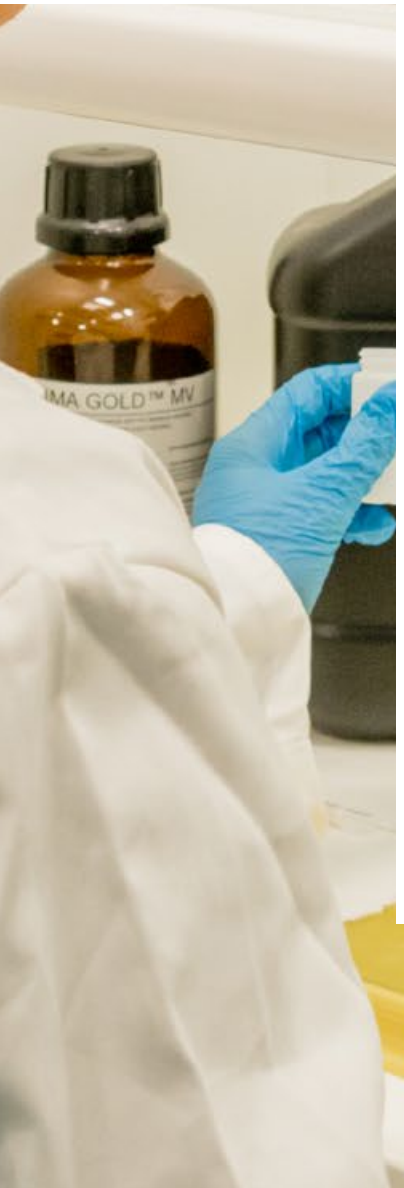
ATRON Metrology
14 allée des Vindits
50130 Cherbourg-en-Cotentin, France

ATRON METROLOGY

Our services

ALPHA AND BETA COUNTING

« A laboratory for environmental monitoring and deconstruction »



Non-contamination control

analysis of liquid or smear samples, indirect alpha and beta measurements, compliance with release thresholds

Global alpha/beta index

low noise proportional counter and automated sample changer

Liquid scintillation counting

low energy beta emitters, 3H or 14C and rapid rendering of results

Since alpha or beta radiation is not very penetrating, its detection requires a sample preparation phase. For liquids, this can be evaporation in the case of global alpha/beta counting, or dilution in the case of liquid scintillation counting.

ATRON Metrology implements the appropriate sampling and measurement resources to achieve low detection limits:

- <0.4 Bq/cm² in beta and <0.04 Bq/cm² in alpha on 100 cm² smears
- <0.1 Bq/L in beta and <0.01 Bq/L in alpha on liquid samples

+33 261 819 990
contact@atron.fr
www.atron.fr/en

ATRON Metrology
14 allée des Vindits
50130 Cherbourg-en-Cotentin, France

ATRON METROLOGY

Our services

GAMMA AND X SPECTROMETRY

« A laboratory to identify the radiation left behind as a signature »

Identification of radionuclides

low resolution GeHP detectors, X-ray spectrometry chain, low background noise and spectral signature

Environmental monitoring

radiological cleanliness of effluents, soils, sediments, plants

Characterization of waste

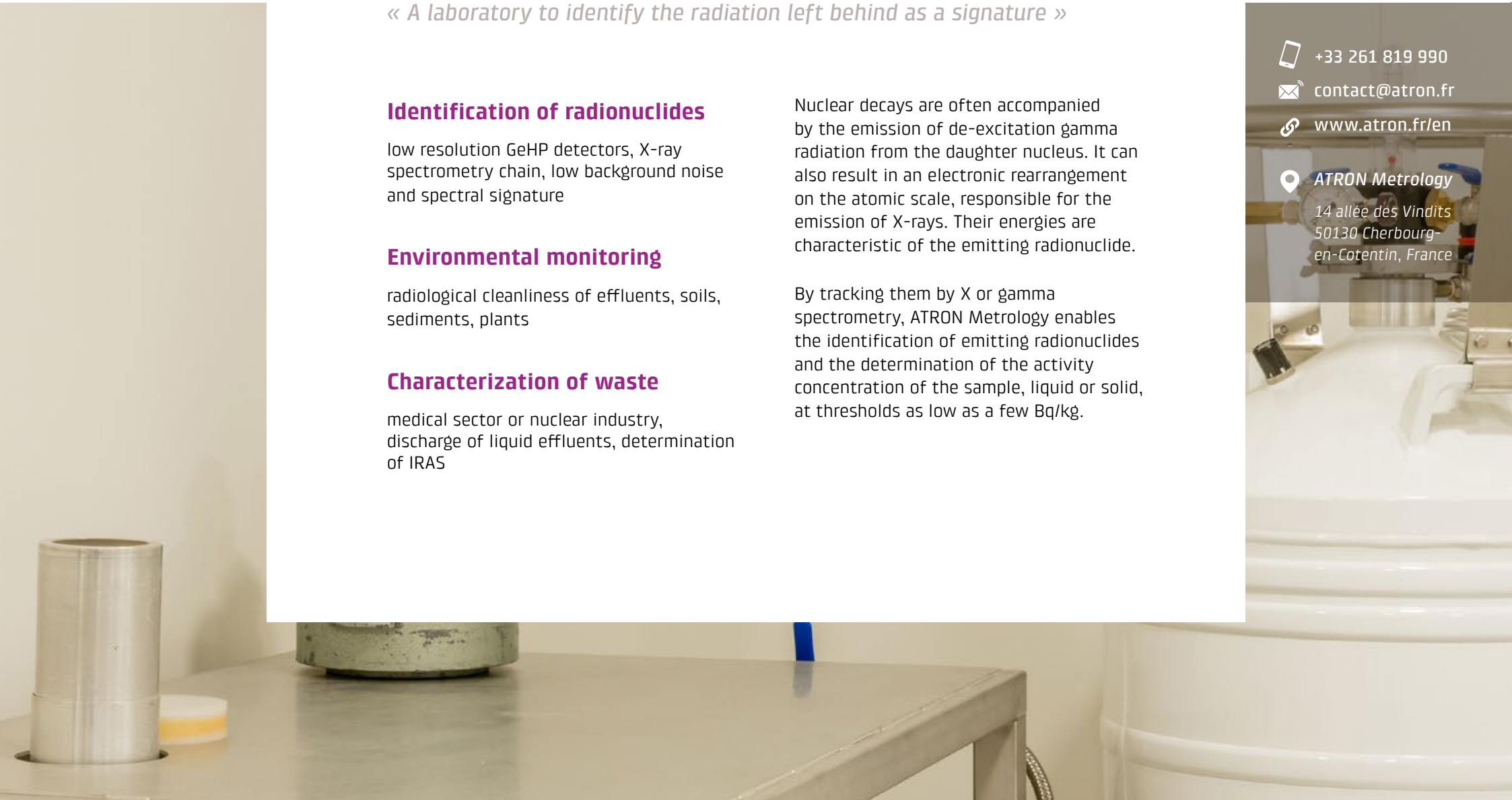
medical sector or nuclear industry, discharge of liquid effluents, determination of IRAS

Nuclear decays are often accompanied by the emission of de-excitation gamma radiation from the daughter nucleus. It can also result in an electronic rearrangement on the atomic scale, responsible for the emission of X-rays. Their energies are characteristic of the emitting radionuclide.

By tracking them by X or gamma spectrometry, ATRON Metrology enables the identification of emitting radionuclides and the determination of the activity concentration of the sample, liquid or solid, at thresholds as low as a few Bq/kg.

+33 261 819 990
contact@atron.fr
www.atron.fr/en

ATRON Metrology
14 allée des Vindits
50130 Cherbourg-en-Cotentin, France



ATRON METROLOGY

Our services

EXPERTISE IN IONISING RADIATION

« The partner for optimizing your processes »

Interaction of ionising radiation

understanding of physical processes, Geant4 or MCNP-X modelling libraries

Capacity for innovation

expertise shared with partner laboratories, participation in international research projects, scientific collaborations

Collaborative approach

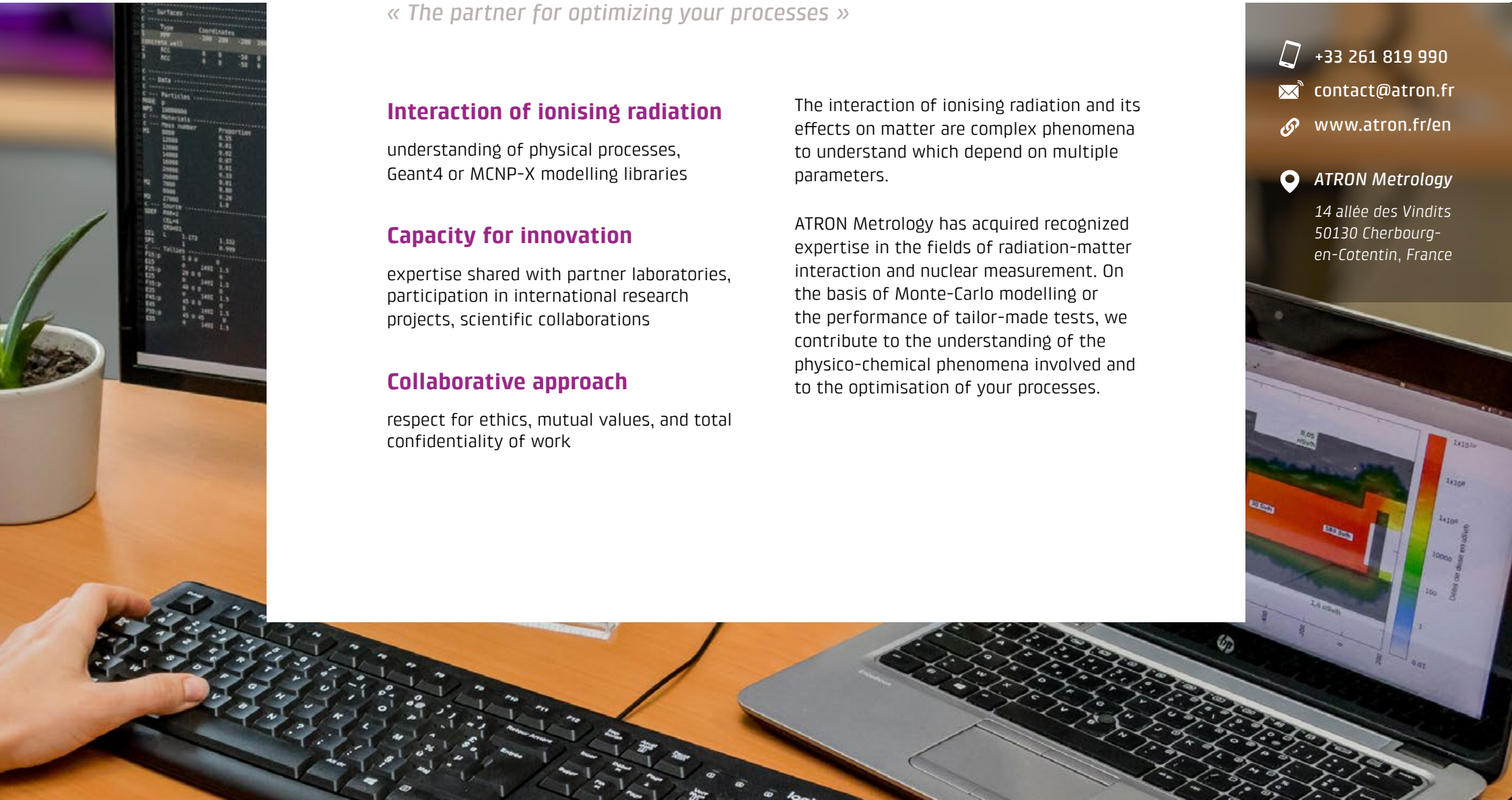
respect for ethics, mutual values, and total confidentiality of work

The interaction of ionising radiation and its effects on matter are complex phenomena to understand which depend on multiple parameters.

ATRON Metrology has acquired recognized expertise in the fields of radiation-matter interaction and nuclear measurement. On the basis of Monte-Carlo modelling or the performance of tailor-made tests, we contribute to the understanding of the physico-chemical phenomena involved and to the optimisation of your processes.

+33 261 819 990
contact@atron.fr
www.atron.fr/en

ATRON Metrology
14 allée des Vindits
50130 Cherbourg-en-Cotentin, France



ATRON METROLOGY

Our services

PROFESSIONAL TRAINING

« An environment conducive to lifelong learning »

Knowledge sharing

assembly of tailor-made training in radiation protection, radiological characterization, effects of irradiation

Facilitation of training

CAMARI particle accelerator, theoretical and practical modules, initial training, and renewal

Competent person in radiation protection

sealed sources, unsealed sources, particle accelerator, radiological zoning

The application of theoretical knowledge is essential for good learning. However, the necessary equipment can be expensive or difficult to implement, in particular in the nuclear field.

Our technological platform presents the appropriate means and skills to support learning. It is regularly made available to training organisations for this purpose. Driven by the desire to transmit, our experts also contribute to the animation of tailor-made training at ATRON Metrology and within higher education establishments.

+33 261 819 990
contact@atron.fr
www.atron.fr/en

ATRON Metrology
14 allée des Vindits
50130 Cherbourg-en-Cotentin, France