



## **CANCER TREATMENT**



## FRANCE: A LEADER IN CANCER RESEARCH

Supported by the National Cancer Institute (INCa) and the French National Institute of Health and Medical Research (INSERM), 126 research projects to fight cancer are currently underway. These projects are based around eight integrated cancer research sites (SIRIC), which aim to bring together different research key players in order to further advance knowledge, treatment and means of disease prevention. (MESRI, 2020)

## TOP-QUALITY INFRASTRUCTURE...

With 950 research staff and 1,780 international publications, the Institut Gustave Roussy is the leading European center in the fight against cancer. The Pitié Salpêtrière (Paris) and Pellegrin (Bordeaux) hospitals are ranked among the 100 best hospitals in the world (Newsweek ranking 2020). In addition to top-quality hospital infrastructure, centers like Antoine Lacassagne in Nice (Provence-Alpes-Côte d'Azur region) and Léon Bérard in Lyon (Auvergne-Rhône-Alpes region), which are both Centers for the Fight Against Cancer (CLCC), provide additional French expertise.

## ...MEETING PATIENTS' NEEDS

Bringing together 18 Centers for the Fight Against Cancer (CLCC) across the country, Unicancer specializes exclusively in the fight against cancer and treats over 540,000 patients every year. In addition to its chemotherapy treatments, radiotherapy and specialist surgery, Unicancer is the leading academic promoter of oncology clinical trials in Europe.

#### **HEALTHTECH: A DYNAMIC INDUSTRIAL BASE**

The French industrial base is made up of more than 1,700 innovative Healthtech businesses, including 720 Biotech companies (Biotech), 800 Medtech companies (Medtech) and 200 specializing in digital health. With more than 5,000 patents already obtained and 1,000 products, a third of which are in the clinical phase, innovative companies are targeting oncology, which is the leading area of investigation, ahead of infectious diseases and the central nervous system. (France Biotech, 2019 overview)

# ARTIFICIAL INTELLIGENCE AND BETTER CANCER TREATMENT

France boasts 68 research laboratories specializing in Artificial Intelligence (France is AI), working to fight and treat cancer. The APRIORICS project led by IUCT-0 in Toulouse (Occitanie region) and selected by the Health Data Hub and Bpifrance, aims to use AI to scan and analyze thousands of microscopic images of cancers which will strengthen detection and identification capacities to ensure the best possible treatment. (France Biotech 2020)

# FRENCH INNOVATION CELEBRATED AT THE WORLD MEDICAL INNOVATION FORUM IN BOSTON

Among the eight winners of Softlanding Boston 2019, whose objective is to support Medtech and e-health companies in the North American market, is Therapixel, which enhances radiology thanks to its use of artificial intelligence to screen for breast cancer, and was the winner of the 2017 Digital Mammography Challenge; and MYPL, a 100% mobile, SaaS solution in oncology, which is secure and hosted in the cloud. Capable of tracking any critical information using blockchain technology, MYPL optimizes the decision-making process of healthcare professionals when diagnosing and treating cancer patients. [MEDICEN, 2019]

#### **DEVELOPMENT OF IMMUNOTHERAPY**

Estimated at US\$20 billion in 2020, the global immuno-oncology market is growing (Leekink Partners Equity Research). French startup Inovactis is developing technology to activate, via a modified yet non-toxic yeast strain, the body's immune system to fight its own tumor.

#### MOVING TOWARDS MORE TAILOR-MADE TREATMENT

Several innovative startups such as Damae Medical and Carcidiag are developing technologies to deliver a more precise and quicker diagnosis, thus avoiding the need to resort to a biopsy. What's more, NovaGray, using blood tests which rely on machine learning, is able to identify patients who would be at risk of suffering from significant secondary effects during their radiotherapy.

# THE INSTITUT CURIE: MORE THAN A CENTURY OF RESEARCH

A global center of reference for breast and childhood cancer and many cutting-edge techniques such as oncogenetics and accurate radiotherapy, the Institut Curie, created in 1909, hosts cares for nearly 60,000 patients per year and employs nearly 3,000 researchers, doctors and carers. Its 61 research teams are all associated with the French National Center for Scientific Research (CNRS) and the French National Institute of Health and Medical Research (INSERM), while its hospital, although private, works with the public healthcare system.

#### A SOLID NETWORK OF SUPPORT ASSOCIATIONS

Many associations support patients and their families both in terms of treatment and improving the quality of daily life. The association Vivre comme avant has been assisting women affected by breast cancer since 1975, while the "Pink October" campaign has sought to raise awareness of the disease every year since 1994. What's more, Le Rire Médecin has performed over 80,000 clown shows in children's hospital wards.



# **#2**WORLDWIDE

for the number of clinical trials in gene therapy and oncology



# 13

## NOBEL PRIZES

in medicine and nearly 130 cancer research projects



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(NEWSWEEK RANKING 2020)

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