

## PARTNERS



**University Lille (France)**  
[www.univ-lille.fr](http://www.univ-lille.fr)



**Centre Oscar Lambret (France)**  
[www.centreoscarlambret.fr](http://www.centreoscarlambret.fr)



**Demcon (NL)**  
[www.demcon.nl](http://www.demcon.nl)



**Eurasanté (France)**  
[www.eurasante.com](http://www.eurasante.com)



ONCOVET

**Oncovet (France)**  
[www.oncovet.net](http://www.oncovet.net)



**Portsmouth Hospitals NHS Trust (UK)**  
[www.porthosp.nhs.uk](http://www.porthosp.nhs.uk)



**SATT Nord (France)**  
[www.sattnord.fr](http://www.sattnord.fr)



**Technische Universiteit Delft (NL)**  
[www.tudelft.nl](http://www.tudelft.nl)



**University of Portsmouth (UK)**  
[www.port.ac.uk](http://www.port.ac.uk)

## OBSERVERS



**Elekta (NL)**



**Philips Clinical Science (NL)**



**Wessex Academic Health Science Network (UK)**

## PROJECT DETAILS

PROJECT START:

**1st**  
January 2018

DURATION:

**57**  
months

TOTAL COST:

**3 800 000 €**

ERDF CO-FINANCING RATE:

**60%**

ERDF FUNDING:

**2 280 000 €**

## CONTACT



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**CoBra**  
BRACHYTHERAPY

Technological innovation for biopsy  
and brachytherapy under MRI control,  
in order to improve diagnosis  
and treatment of localised cancers



## CLINICAL CONTEXT

Prostate cancer is the fourth most common cancer in Europe, for both combined sexes and the second most common cancer in men. Treatment of such cancer can be performed by surgery, external radiotherapy (RT) or brachytherapy. Surgery consists in removing the entire prostate, while RT involves irradiating the target volume with a particle accelerator.

Brachytherapy is a technique better tolerated by patients, aiming to irradiate a target volume by placing radioisotopes emitting low or high ionizing radiation in it or in its contact, only in one intervention. However it presents also certain practical limits, such as: manual handling of radioactive needles that raises fears among practitioners; impotence, incontinence and trauma of patient.



## OBJECTIVES

The CoBra project aims to improve the quality of both diagnosis and treatment of localized cancers, by developing a new medical robot prototype for brachytherapy and biopsy under guidance of MRI.

The overall objective of the project is to improve the accuracy of cancer diagnosis, and increase the accuracy of treatment, increasing cure rates and minimising side effects. The prostate and other soft tissues will be the main localized cancers of interest in the Cobra project.

## OUTPUTS



### TECHNOLOGY

to develop new medical robot prototype for diagnosis and treatment of localized cancers by brachytherapy and biopsy under guidance of MRI.



### TRAINING

to initiate a training programme for practitioners and physicists on MRI based robotic brachytherapy and biopsy in the 2 Seas region.



### STUDY

to elaborate a map for targeted cancers dispersion in the region of 2 Seas. This allows estimating the optimal placement of the designed concept in the region of the 2 Seas according to the patient concentration.



### NETWORK

to develop a network of SMEs and start-ups for technological transfer of the new designed concept.

The fight against cancer is an issue that concerns all cross-border countries. In addition, only few Brachytherapy centres exist in the 2 Seas region. Some resident patients move outside the 2 Seas region to get access to brachytherapy techniques.

