



BIOVISION The World Life Sciences Forum

Biovision Catalyzer
13-14 APRIL 2016



CT-NAV2

Endorsed by: Albin JOURDA



Project holder : CARRAT Lionel
Medtech

Organization : IMACTIS
France
www.imactis.com

Brief summary:

IMACTIS has developed an unrivaled "GPS" technology to help needle positioning during percutaneous CT-based Interventional Radiology .

Project / initiative description (context and objectives):

IMACTIS' ambition is to become the standard solution for real-time navigation in CT-based interventional radiology, in collaboration with multiple industrial and commercial partners.

The IMACTIS medical device enables interventional radiologists to plan trajectories and guide needles. The objective is to assist the radiologist and help him/her to reach targeted organs. The technology is used to perform procedures such as biopsies, tumor ablations, drainages or infiltrations. Today's radiologists plan a trajectory on a console and then try to reproduce it on the patient in the operating room. As the needle positioning is not accurate, the radiologist controls, using X-Rays, the needle position and adapt it if necessary. During the progress of the needle, many controls may be done following a process of trials/errors. The drawbacks of the current technic are: the potential inaccuracy of needle position, the operative time that is not well controlled and the possibility to perform false trajectories. When considering, biopsies and tumor ablations, the correct position of the needle is a key point. To avoid vital organs, some trajectories have complex angulations, making needle positioning risky and requiring numerous adjustments. By anticipating the needle's trajectory and providing dynamic trajectory guidance, the IMACTIS CT navigation system enables interventional radiologists to successfully perform difficult procedures with COMPLEX TRAJECTORIES, REDUCE OPERATIVE TIME and X-RAY EXPOSURE both for patient and medical staff, and INCREASE PRECISION and SAFETY.

Description of the existing or potential collaboration:

The intraoperative imaging market was valued at \$1.7 billion in 2014, and is expected to reach \$2.1 billion by 2019. Major players are: Siemens, GE Healthcare and Philips. All three have bought our system.

Imactis obtained the CE Marking in 2013.

10 IMACTIS' systems are installed: 8 in France, 1 in Denmark and 1 in Netherlands.

Imactis has 3 strategic development directions:

Industrial partners with imaging CT/CBCT companies (GE, Philips, Siemens...) and ablation companies

A geographic expansion: in France first directly with our sales force and EU through distribution companies, then USA and Asia

Adoption of the system: working with Key Opinion Leaders who recommend the product



BIOVISION The World Life Sciences Forum

Biovision Catalyzer 13-14 APRIL 2016



Project / initiative assets (type, innovation, level...):

The IMACTIS medical device is composed of a hardware station, a software and single use components. The system detects the position and the orientation of a needle guide and displays the anticipated trajectory of the needle in real time. This trajectory is displayed in two reconstructed slices extracted from the CT volume.

When the radiologist moves the needle guide, the system displays in real time the anticipated needle trajectory. As a result, the radiologist uses the medical device as a planning tool to explore the patient's anatomy and to find the best path to reach the target. Once the optimal trajectory is selected, the needle guide offers needle guidance and dynamic orientation control (see demonstration video at www.imactis.com).

Imactis holds several awards and grants and won the French Innovative Companies National Prize (€150,000). Imactis has a strong patent portfolio with 6 patents and more to come.

Societal benefits:

Imactis technology is dedicated to interventional radiologist who performs percutaneous diagnostic and therapeutic procedures. Percutaneous interventional radiology can replace open surgery in many cases for tumor ablation. For all kind of interventions, the IMACTIS medical device propose the following advantages:

- for the patient: No incision with the benefits of less post-intervention complications and shorter hospital stay, easiness of a second intervention in case of tumor recurrence, decrease of x-rays exposure, improvement of needle position accuracy with less false trajectories and possibility to perform complex trajectories (less false negative during biopsies, less collateral damage during tumor ablation).
- for the hospital/radiologist: Better control of intervention duration, decrease of intervention duration, decrease of radiologist x-ray exposure, possibility to treat more patients.
- for the society: Decrease of cost, shorter hospital stay, better post-intervention recovery, less tumor recurrence, decrease of false negative during biopsies allowing anticipated treatment.

Planned schedule:

Imactis has obtained the CE Marking in 2013 and plans to reach FDA approval at the end of 2016.

Imactis has to continue R&D developments to keep its technology leadership.

Imactis seek an investment fourth round of €4 millions (after 3 rounds with Business Angels with a total of €940,000) to finance our R&D and worldwide sales development.

What are you expecting from BIOVISION Catalyzer?

- 1 Visibility
- 2 Meeting potential partners
- 3 International reach
- 4 Other