

A startup from northern Germany significantly speeds-up cancer treatment and tumor monitoring by an self-developed imaging modality using nano sensors.

Summary

Profile type

Technology offer

Company's country

Germany

POD reference

TODE20230809009

Profile status

PUBLISHED

Type of partnership

Investment agreement

Targeted countries

• **World**

Contact Person

[Rita ELSTE - TOMSONE](#)

Term of validity

9 Aug 2023

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Last update

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General Information

Short summary

Cancer belongs to the leading causes of death in Europe. A start-up from northern Germany developed a methodology which speeds up the process of identifying the therapy with most impact. The startup searches for cooperation partners and investors to further develop the successful prototype throughout the certification process and subsequent market access.

Full description

Problem description:

Every second person in western countries is expected to suffer from any kind of cancer in his or her life. And almost a third of these persons face the diagnosis of metastatic solid tumors that can no longer be treated curatively. In this case further growth can be prevented only for a limited period of time by means of palliative systemic therapy.

Examples are:

- treatments with classical chemotherapies (CTx)
- targeted therapies by means of monoclonal antibodies (mAb's)
- or small molecule agents and immunotherapies (ICI).

There are two conditions hindering the functionality of these therapies.

1. A bodies' response to these therapies can be very variable and follows to some extent a trial and error principle.
2. All of these therapy options are affecting and stressing the entire body.

Monitoring if a therapy is having a positive impact is performed mainly by means of medical imaging techniques such as computed tomography (CT) and magnetic resonance imaging (MRI) which have a limited frequency of application due to collateral side effects and high operational costs. In a nutshell: After an average time of 8-12 weeks, it is possible to make a statement if a therapy is successful, by accepting collateral side effects and high operational costs.

Approach:

The start-up from northern Germany aims to reduce the time it takes to detect a therapies' efficacy with a novel miniaturized sensor implant.

Interstitial fluid pressure as well as the temperature in the tumour tissue drop, when a chemotherapy succeeds.

Based on these preliminary studies, developed a novel miniaturized sensor implant, usable with biopsy needles. The implant transmits information about the tumors' temperature and fluid pressure development in real time. This way the therapies' impact may be tracked much faster than available alternatives. The approach seeks to establish a new standard for the treatment of solid tumors.

Advantages and innovations

- Time: The clients' technology enables a detection of therapy impact in real-time, compared to current available alternatives which need at least 8-12 weeks to make a statement about a therapies' effectiveness.

- Financial: More information at an earlier point of time lead to fewer necessary operations, which saves money and time for all actors involved (hospitals, doctors, health insurances, patients)

- Wellbeing: More therapy approaches may be tried in significantly less time. The time period where patients face stress and are suffering is shortened and the chance of finding timely the right therapy is increased.

Technical specification or expertise sought

Stage of development

Lab tested

IPR Status

Secret know-how

Sustainable Development goals

• **Goal 3: Good Health and Well-being**

Partner Sought

Expected role of the partner

Enterprises from the following areas are sought for cooperation:

- medical technology in general
- enterprises related to breast cancer
- mammography equipment manufacturers
- biopsy needle manufacturers

Role of the partner:

Financial support and assistance

Type of partnership

Investment agreement

Type and size of the partner

- **R&D Institution**
- **University**
- **Big company**
- **SME 11-49**
- **SME 50 - 249**

Dissemination

Technology keywords

- **06001013 - Medical Technology / Biomedical Engineering**
- **06004 - Micro- and Nanotechnology related to Biological sciences**
- **006001012 - Electromedical and Medical Equipment**
- **06001005 - Diagnostics, Diagnosis**

Targeted countries

- **World**

Market keywords

- **05001001 - Diagnostic services**
- **005001002 - Medical imaging**
- **03007002 - Other measuring devices**
- **05002005 - Other medical imaging**
- **05003003 - Surgical implants**

Sector groups involved

- **Digital**
- **Health**
- **Electronics**