

Cancer Diagnostics

Startup Identification – August 2020

*What are the startups that have emerged in the cancer diagnostics market?
What are they working on? Who are the key people in these companies?*

REPORT OUTLINE

- Cancer diagnostics
- Startup Identification Report
- August 2020
- Ref.: KM20007
- PDF: 430+ slides
- € 1,990 for a multi-user license



REPORT'S KEY FEATURES:

- **Identification & mapping of the startups** that recently started to work in the field of cancer diagnostics.
- **Segmentation** by **technology** (Medical imaging, Software, AI-based tool, Biochemical analysis, Molecular diagnostics, Lab-on-chip, Liquid biopsy etc.)
- **Description** of the startups and their current stage of product development, funding rounds and subsidies.
- Presentation of **all their relevant published patent families**.
- Description of **key people** and their background.

This report will help you:

- Identify new business opportunities.
- Identify new competitors-to-be.
- Understand the evolution of key trends in IP and technology development.

RELATED REPORTS

- [Immunotherapy in Oncology – Startup Identification](#)
- [Microfluidics – Startup Identification](#)
- [CTC: isolation & detection – Patent Landscape Analysis](#)
- [Artificial Intelligence in Medical Diagnostics – Patent Landscape](#)
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Over 150 startups working in the field of cancer diagnostics were identified

The World Health Organization estimates that cancer was responsible for the death of about 9.6 million people in 2018 making of it a leading cause of death worldwide. A delay in the treatment of cancer can result in a considerable decrease of the patient's chance of survival. Therefore the cancer diagnostics market is booming and highly competitive with a large number of big and small players operating in different market segments. Moreover, a strong need for new diagnostics exists to allow earlier detection with higher sensitivity and higher specificity. New startups are founded every year with the aim of developing the next big diagnostic technology. In this highly diverse and rapidly changing ecosystem, it is crucial to identify new players and monitor their activities to determine opportunities, threats, potential partnerships and collaborations. Because of their small size and technological diversity, these young companies are hard to identify by conventional approaches (web searches, workshops etc.). In this report, Knowmade has thus investigated patents related to cancer diagnostics in order to identify startups through their patent filings. 154 startups having filed their first patent application between 2018-2020 were thus identified, and for 74 of them, the report describes their main activity, products, patents, and key people among their staff. This study reveals that molecular diagnostic is the market that is the more explored by the selected startups, with an emphasis on the applications related to genetic testing. Medical imaging is also a field of interest for several startups identified. Most of which are working on software solutions to improve the interpretation of medical images using artificial intelligence.

Why use patents to identify startups?



Startup identification



Technology assessment



Company's key people

Detecting hidden companies – Looking at patent documents makes it possible to identify companies that do not communicate much or even at all. It is a good way to detect companies that could not be found using more conventional methods (e.g. trade fairs, conferences, web searches, etc.).

Assessing the technology – Technology is one of the keys to a startup's success and being able to understand and assess it is highly valuable. The specification of a patent document includes a lot of technical information that can be used to determine the advantages brought by new inventions. The patent claims can also be used to determine the protection the applicant is asking for, and therefore where its interest resides.

Identifying the key people – The success of a startup is strongly linked to the team that composes it. It is therefore important to know the founders and inventors to assess the odds of its success. Patents enable the identification of inventors inside the companies. These inventors are technical experts who have laid the foundation of the technology the startup is developing. Describing the background of key people can help in understanding the startup project, and their history can reveal the extent of the know-how they have accumulated.

Startup Identification

Startups have been identified by screening the patent documents published in 2019/2020 claiming technologies related to cancer diagnostics. **For each startup identified, the report provides a complete description of its activity and the stage of development of its product.** Information about funding rounds and subsidies are also described.

QMENTA

Company & Product description

QMENTA (www.qmenta.com) is a company headquartered in Boston, MA (USA) that was founded in 2013. The company also has offices in Barcelona (Spain).

QMENTA is an advanced medical image storage, processing and visualization company focused on brain data analysis, specifically using MRI and related clinical data. It provides state-of-the-art medical image processing algorithms in a seamless way in order to accelerate the development of new therapies for neurological diseases via scalable and collaborative cloud platform.

The company takes on the mission of organizing and quantifying brain imaging information through advanced imaging tools and to deliver it to experts in a seamless manner. People at QMENTA aim to change the way patients are diagnosed and monitored, and disease progression and drug efficacy are measured; which to date pose one of the biggest healthcare challenges for the aging societies of the world.

The company offers three AI-based solutions:

QMENTA Care
Make the most out of medical imaging extracting valuable information that will give you an objective foundation for your treatment and diagnosis.


QMENTA Trials
Run your imaging trial in an efficient, fast and reliable way.
Create your own workflow, share data safely, and plug-in any imaging biomarker you want.


QMENTA Labs
Run your research project in an efficient, fast and reliable way.
Share data safely, use advanced biomarkers in a scalable infrastructure.

This solutions includes:

QMENTA AI Reader offers reliable and robust tools for diagnostics, prognosis, monitoring and decision support for experts and clinicians, freeing up their time by automating manual tasks and extracting valuable information from the unprocessed images to facilitate decision-making.

QMENTA's Neuro AI tools provide unique insight into the brain anatomy by accentuating tissue change or damage or hyperintensities in color and in 3D and by creating brain network maps in order to see changes in connections due to disease/injury. These state-of-the-art algorithms powered by machine & deep learning help clinicians to accurately evaluate patients and their disease state based on objective criteria.





QMENTA claims this solutions improves medical diagnosis accuracy by removing the bias induced by manual human interpretation.

QMENTA is recognized by the Spanish government as a SME that innovates by doing R&D in Spain.


Patent Description

This report includes a detailed description of all the patents filed by identified startups. The elements provided in each overview slide provide essential information to quickly understand the patented technology. For each patent family described, the publication number of Granted/Registered and Pending members are provided, as well as the abstract, the first claim, relevant information about the invention and the most relevant figure (e.g. figure explaining how the invention can be carried out, illustrating its efficacy, etc.).

QMENTA

Patent description

Title	Tumor segmentation tool
Inventor(s)	GINER SANTIAGO PUCH, RODRIGUES PAULO REIS, PRCHKOVSKA VESNA
Abstract	Systems and methods of tumor segmentation are receiving data having dimensions of a first size and a first kernel size. A residual volume is produced from the input volume. A first, second, and third intermediate volume are produced by from convolving a first, second, and third dimension volume of the residual volume to 1. A first global volume is produced from sums of the residual volumes. A downsampled volume is produced from the input volume. A residual downsampled volume is produced from the downsampled volume. A first, second, and third intermediate downsampled volume is produced from convolving a first, second, and third dimension volume of the downsampled volume to 1. A second global volume is produced from sums of the intermediate downsampled volumes. The second global volume is upsampled. An output volume is produced from integrating the first global volume and the second global volume.
Claim 14	<p>Claim 14 [WO2020/006514]: A system to delineate and identify a tumor, comprising: one or more processors and memory to:</p> <ol style="list-style-type: none"> Receive data representing an input volume having dimensions of a first size and a first kernel size; Produce a residual volume from the received input volume having dimensions of the first size; Convolve, to a first intermediate residual volume, a first dimension of the residual volume to size of 1; Convolve, to a second intermediate residual volume, a second dimension of the residual volume to size of 1; Convolve, to a third intermediate residual volume, a third dimension of the residual volume to size of 1; Sum the first intermediate residual volume, the second intermediate residual volume, and the third intermediate residual volume to create a first global volume having dimensions of a second size and a second kernel size; Produce a downsampled volume having dimensions of a third size and a third kernel size from the received input volume, wherein dimensions of the third size comprises dimensions of half the first size and the third kernel size is double the first kernel size; Produce a residual downsampled volume from the downsampled volume having dimensions of the third size and the third kernel size; Convolve, to a first intermediate downsampled volume, a first dimension of the downsampled volume to size of 1; Convolve, to a second intermediate downsampled volume, a second dimension of the downsampled volume to size of 1; Convolve, to a third intermediate downsampled volume, a third dimension of the downsampled volume to size of 1; Sum the first intermediate downsampled volume, the second intermediate downsampled volume, and the third intermediate downsampled volume to create a second global volume having dimensions of a fourth size and the second kernel size; Upsample the created second global volume having dimensions of the fourth size to increase the dimension size to dimensions of the second size; and Integrate the first global volume and the second global volume to create an output volume having dimensions of the second size and the second kernel size.



Legal status of alive documents	Granted	No granted patent yet
	Pending	WO2020/006514
1st publication date:	2020-01-02	

FIG. 8

FIG. 8 illustrates an axial representation 800 of an example segmented brain tumor by ResUNet and the convolutional neural network architecture described herein.


Key People Description

This report includes a description of the key people and/or inventors involved in each selected startup. Knowing the key people behind a startup helps assessing its chances of success by determining their individual strength and their complementarity. This report is focused on the description of the people who have a technical background. For each key person, the report shows a summary of their educational background, employment history, as well as their other current activities and a link to their LinkedIn profiles.

QMENTA

Key people and inventors






Olivier THOMAS, COO and Co-Founder of QMENTA

...

[LinkedIn](#)



Brice SAGOT, CTO and Co-Founder of QMENTA (and former CEO)

...

[LinkedIn](#)

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ABOUT KNOWMADE

Specializing in patent analysis and scientific information, Knowmade provides technology intelligence and IP strategy consulting services. The company supports R&D organizations, industrial companies, and investors in their business development by offering them a deep understanding of their IP environment and technology trends. Knowmade’s experts provide art search, patent landscape analysis, scientific literature analysis, patent valuation, IP due diligence, and freedom-to-operate analysis. In parallel, the company proposes litigation/licensing support, technology scouting, and IP/technology watch service. Knowmade’s analysts combine their technical and patent expertise with powerful analytics tools and proprietary methodologies to deliver relevant patent analyses and scientific reviews.

ORDER FORM

Cancer Diagnostics

Startup Identification – August 2020

Ref.: KM20007

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Address:

City:

State:

Postcode/Zip:

Country:

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Tel:

Email:

Date:

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FRANCE

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IBAN: FR76 1460 7003 6360 6214 5695 139
BIC/SWIFT: CCBPFRPPMAR

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Signature:

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BIC or SWIFT code: CCBPFRPPMAR

IBAN: : FR76 1460 7003 6360 6214 5695 139

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4.8 The Seller does not make any warranties, express or implied, including, without limitation, those of saleability and fitness for a particular purpose, with respect to the Products. Although the Seller shall take reasonable steps to screen Products for infection of viruses, worms, Trojan horses or other codes containing contaminating or destructive properties before making the Products available, the Seller cannot guarantee that any Product will be free from infection.

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