MEDIAN TECHNOLOGIES

BUY

Good News That Is Not Yet fully Reflected in the Current Stock Price

Target Price: **€14,2**

Upside: **x2,8**

18 June 2020

Investment Case

We are initiating coverage of Median Technologies with a Buy rating for the following reasons:

- Strong growth for iCRO activity and an order book of more than €44m at the end of March 2020;
- Promising advances for the iBiopsy® platform: promising results in advanced fibrosis, EIB financing, first major research partnership with AP-HP;
- A reorganisation that has borne fruit, especially regarding a reduction of the burn rate;
- An ability to raise capital from top-tier investors;
- Rerating expected in parallel with its transition from a CRO to diagnostic company.

Recognised Know-How in iCRO

Median Technologies is a software publisher and service provider specializing in clinical solutions leveraging medical images. Through its iSee® platform, the group offers its services to biopharmaceutical companies and other CROs in Europe, North America and China for their clinical trials in cancer research. The CRO business now represents 100% of the company's revenue.

Internal Research Program Launched in 2016: iBiopsy®

Thanks to the latest advances in cloud computing, big data and artificial intelligence, the group has developed a technology that makes it possible to access information into image that is otherwise inaccessible today: the iBiopsy® platform, which aims to develop innovative diagnostic tools for the development of precision and predictive medicine. The first targeted indications are in fields where current diagnostic tools are highly insufficient and where the target population is large and still growing: immuno-oncology, NASH and HCC (liver diseases). To finance these initial developments, in 2019 the group obtained a €35m loan from the EIB, of which €15m was drawn down in early 2020.

Strong Revenue Growth and Lower Operating Losses in 2019

Thanks to project selectivity and the repositioning of the distribution strategy carried out in 2018, business grew strongly again in 2019: revenue stood at €9m (+41%, +49% in Q1) and the order book at €38.3m (+62% vs. end 2018, €44.4m at the end of March 2020). Operating losses have also been reduced to -€8m, with the iCRO activity now at breakeven.

Buy Rating with a TP of €14.2

Although the share price has quintuple since the year's low, we believe that it does not reflect the good newsflow: sustained Q1 growth (+49%), partnership with AP-HP, an unblocking of the EIB financing, and promising results in HCC; not to mention the platform's potential. We believe that the stock should continue to rebound in parallel with its newsflow, which should remain buoyant. We are therefore initiating our coverage with a Buy rating and TP of €14.2 (Sum of parts).

Market Data

Industry	Healthcare
Share price (€)	5,0
Market cap (€m)	60,5
Market Segment	Euronext Growth
Bloomberg	ALMDT:FP

Shareholders

Founders	7%
Furi Medical Science	12%
Celestial successor	11%
Abingworth Bioequities	9%
Growth Equity Oppotunities	8%
Canon	8%
IdInvest Partners	6%
Auriga Venture	5%
Others	33%

€m (31/12)	2019	2020e	2021e	2022e
Sales	**9,0**	**13,4**	**20,2**	**29,3**
Change (%)	*41,2%*	*50,0%*	*50,2%*	*45,1%*
EBIT	**-8,0**	**-8,0**	**-7,1**	**-4,4**
as % of sales	*-89,0%*	*-59,6%*	*-35,1%*	*-15,1%*
Net profit	-8,0	-8,5	-7,9	-5,7
EPS (€)	-0,66	-0,70	-0,65	-0,47
Change (%)	*20,3%*	*20,3%*	*20,3%*	*20,3%*
Dividend (€)	0,00	0,00	0,00	0,00
Yield (%)	*0,0%*	*0,0%*	*0,0%*	*0,0%*
FCF	**-4,6**	**-6,5**	**-5,5**	**-2,1**
ROCE	163,8%	116,5%	76,1%	34,4%
EV/SALES (x)	0,0	4,3	3,1	2,3
EV/EBIT (x)	0,0	-7,1	-8,9	-15,1
PE (x)	0,0	-7,4	-7,9	-10,9
Net debt	-6,5	0,0	5,4	7,6
Gearing (%)	-509%	0%	-36%	-36%

Midcap Partners estimates

Next event : H1 result on October

Past recommandations

Date	Recommandation
18/06/2020	Buy

Analyst: Claire DERAY
Mail: cd@sponsor-finance.com
Tel: +33 (0)6 18 49 29 35

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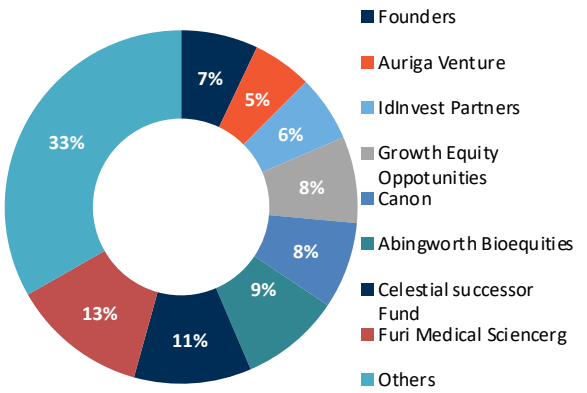
I. Overview of Median Technologies

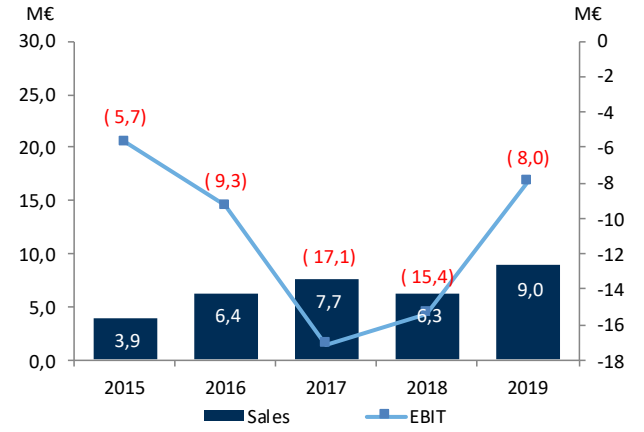
Description

Founded in 2002, Median Technologies provides innovative imaging solutions and services based on the power of phenomenal imaging, coupled with the development of analysis algorithms developed through the use of artificial intelligence and cloud computing. The company has developed two proprietary platforms: iSee® (analysis and management of medical images in clinical trials), and iBiopsy® (discovery of new biomarkers with the aim of providing new diagnostic tools). These platforms aim to accelerate the development of innovative therapies and improve the care of patients suffering from cancer and other chronic diseases, through the development of personalised and predictive medicine.

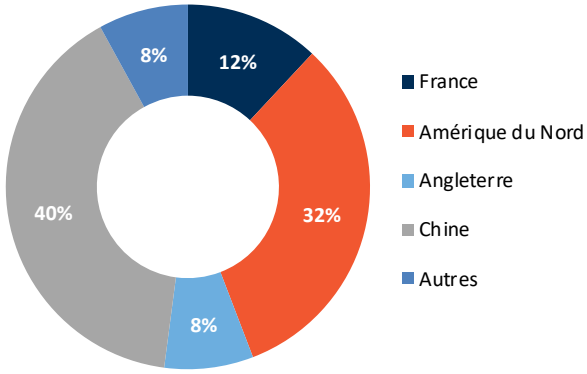
Shareholders



Business and EBIT trends



Breakdown of revenue by country



SWOT Analysis

Strengths

- A recognized iCRO activity that is now operational
- Accelerating geographical diversification
- An ability to attract major shareholders

Weaknesses

- Revenue still low even though it has been rising sharply
- Overall losses
- More investments need to be made, particularly for the iBiopsy® business
- Low stock liquidity

Opportunities

- Accelerating iCRO deployment through partnerships with major CROs
- Result publications from ongoing studies for the iBiopsy® platform that confirm its potential, especially as a diagnostic tool
- Partnerships with major laboratories
- Confirmation of success in China

Threats

- Difficulty in finding funding
- iCRO business growth halted
- Failure in one of its targeted indicators by iBiopsy®

II. KEY INDICATORS

There are more than 200 different types of cancers. They can be divided into four main categories: solid cancers, liquid or blood cancers, metastatic or disseminated cancers, and secondary cancers. A solid tumour (carcinoma or sarcoma) is a more or less voluminous tumour due to an excessive multiplication of cells, cancerous or not. Solid tumours can develop in any tissue: skin, mucous membranes, bone, organs, etc. Solid cancers are the most common since they alone account for 90% of human cancers. It is in these solid tumour cancers that the group has specialised, by developing tools for the collection, management and analysis of medical images as a service provider in clinical trials (iCRO), and since 2016 by launching a research programme to improve analysis and diagnostic tools.

A. The CRO Market

In the context of research and development programmes necessary for the development and marketing of pharmaceutical products, industry and public research players commonly use service providers, known as CROs (Contract Research Organisations), out of obligation (need to carry out independent studies including imaging for some therapeutics fields o/w oncology), to gain access to study design know-how, to certain technologies or fields of application, to guarantees of data reliability, or to the preservation of patient rights and safety.

The CRO market was estimated at $38.4 billion in 2018 (of which 45% in North America), and is expected to reach nearly $91 billion by 2026, representing average annual growth of more than 11% (source: fortunebusinessinsights), driven by i) the expansion of research programs and an increase in the average budgets of these programs (increase in the prevalence rates of chronic diseases, research related to cancer, Alzheimer's disease, etc.), and ii) the growth in the number of research programs and the increase in the number of research projects.), ii) the greater use of subcontracting by clients, and iii) the opening of new markets (China, the main growth driver today, estimated growth of +20% per year from 2018 to 2025, Source: ReportLinker). The share of imaging in the CRO market for clinical trials is estimated at 6-10% (Source: Company).

The market is quite fragmented, with more than 1,100 CRO companies worldwide (source: prnewswire). Behind the global players there are a multitude of smaller players. The top 10 companies in the sector (IQVIA, Covance, LabCorp, Syneos, Charles River, Parexel, ICON, PRA, PPD and Wuxi AppTec) account for just over 50% of the market.

In the imaging segment, iCRO, the main players are Bioclinica (US company created more than 30 years ago, 2,500 employees worldwide, participation in more than 4,000 clinical studies), Parexel (US company created more than 35 years ago, 20,000 employees worldwide) and Icon (Irish company created in 1990, and listed on the Nasdaq: ICLR, with total sales of more than $2.8 billion in 2019). But there are also a multitude of smaller players, such as Median Technologies.

In this buoyant market, the company has been able to initiate the deployment of its iCRO offer, mainly in North America (30% of 2019 sales) and more recently in China (44% of 2019 sales).

B. Diagnostic Tools

Biopsy or puncture: Invasive examinations

To diagnose, measure, or monitor the progress of cancer or certain diseases, biopsy or puncture are the tools used by practitioners in their patients' follow-up or by researchers in clinical studies. These so-called invasive examinations have several drawbacks: they can be unpleasant or even painful, sometimes require local or general anaesthesia, hospitalisation, and have a number of side effects, and even risks of accidents. It is therefore difficult to reproduce them frequently, especially as they are expensive. Moreover, they only represent a partial sampling of the information needed to analyse the tumour or liver fibrosis, and therefore give only a fragmented view to practitioners. They are thus associated with so-called non-invasive examinations: imaging tools and biological examinations.

Non-invasive examinations

- Biological examinations

Biological tests use bodily fluids (blood, urine, plasma, saliva) to detect rare cells and biomarkers. Biomarkers can provide useful indications for patient follow-up. Changes in marker rates (decrease / normalization of the biomarker when the treatment succeeds in eliminating the cancer cells) make it possible to know relatively quickly whether a given treatment is effective or not. In addition to liquid biopsy, the market is experiencing the emergence of several other non-invasive diagnostic technologies that use skin lesions, bronchial fluid and respiratory expiration as samples to trace cancer signatures.

- Medical Imaging

This category includes the means of acquiring and reproducing images of the human body from various physical phenomena such as X-ray absorption, nuclear magnetic resonance, reflection of ultrasound waves or radioactivity, which are sometimes associated with optical imaging techniques such as endoscopy. Today, medical imaging is one of the main tools for diagnosing cancers and certain pathologies. It allows us to obtain more or less precise images of internal organs, depending on the technique used, and thus to visualise any tumours they may present. These images provide information on the location, size and evolutionary stage of tumour lesions. Beyond their diagnostic value, they are therefore very useful for the implementation of a therapeutic strategy. The main imaging tools are :

⇒ ultrasound: the use of ultrasound and radiography, the use of X-rays;
⇒ the scanner or CT scan for tomodensitometry, using of X-rays, but with much finer images than radiography thanks to a series of images corresponding to as many sections of the organ studied, and the possibility of reconstructing a relatively precise 3D image;
⇒ MRI or Magnetic Resonance Imaging, very useful for examining soft, water-rich organs such as the brain;
⇒ PET-scan or Positron Emission Tomography, a dynamic imaging technique that allows us to visualize organ functioning;
⇒ scintigraphy: visualization of the cell activity of certain organs.

These technologies have revolutionized medicine thanks to the progress of computer science by making it possible to indirectly visualize the anatomy, physiology or metabolism of the human body. Developed as a diagnostic tool, they are also widely used in biomedical research to better understand how the body functions.

A Dynamic Market

The cancer diagnostics market was estimated to be worth more than $97bn in 2018 (source: gminside), and is expected to grow by more than 8% per year from 2019-2025, driven by the increase in the number of cancer cases worldwide, growing use of diagnostics (generalized for one age group in certain indications), greater access (fast-growing emerging countries) and the multiplication of diagnostic tools. The imaging segment represented 65% of the market in 2018 (source: gminside). Hospitals are the main users, but the use of imaging by pharma company in cancer research is expected to experience robust growth with an average annual growth rate of 9.4% expected from 2019-2025 (source: gminside). Research is focusing on new techniques to detect a specific disease in real time. Many industry players are therefore collaborating with cancer research institutes to strengthen R&D, helping to develop new products. In addition, increased government investment in health R&D in emerging economies will stimulate market growth in the coming years.

The combination of diagnostic tools, the multiplicity of pathologies and the specificities of each individual lead to the collection of a large amount of data that needs to be managed and interpreted in order to complete the diagnosis and measure or monitor the evolution of solid tumours. It is in this context that, since 2002, the company has been developing software tools for the collection, management and analysis of imaging data for clinical studies (iSee® platform).

Based on standard imaging tools and thanks to the latest advances in data science, artificial intelligence and data/cloud computing, the group has launched research programs over the past four years via the iBiopsy® platform to develop new high-performance diagnostic analysis tools (biomarkers from algorithms, etc.). This works by linking information from various sources (multimedia/multimodal information, imaging, clinical data, biological data, etc.) to enable it to achieve diagnostic capabilities where they do not currently exist. For example, some cancers or pathologies are difficult to detect, particularly in their early stages, or difficult to measure (determination of the stage of the disease). Furthermore, measuring the treatments' efficacy that is currently under development (effect of compounds under test according to patient category) or of certain immuno-oncology treatments (adapted to each patient) is still complex. Reducing analysis turnaround and improving the quality of interpretations, including predictive medicine, adapted to each patient (personalized medicine) are the objectives set by the directors.

The first indications targeted by the research via the iBiopsy® platform concern three major indications: NASH and HCC (liver diseases) and the identification of responsive or non-responsive patients immuno-oncology, three areas where current diagnostic, prognostic, or treatment efficacity measurement solutions are still very inadequate or non-existent.

Challenges surrounding NASH disease

Steatosis ("fatty liver" disease) occurs when there is an abnormal accumulation of fat in the liver cells. This steatosis can become pathological when it is excessive and progressive, i.e. when there is an overload of fat, liver complications and it is associated with inflammation of the liver: this is called NASH (Non-Alcoholic AteatoHepatitis or non-alcoholic steatohepatitis).

NASH can lead to cirrhosis or liver cancer if it is linked to a diet that is too sweet and fatty. It is usually asymptomatic but its prevalence is currently increasing due to the dual global epidemic of type 2 diabetes and obesity. The challenge is therefore to detect NASH in the first instance and to diagnose the stage of the disease in the second instance.

A study released in the Journal of Hepatology estimates that there will be 17.3 million adults with NASH in the United States in 2016, with a projected increase to 27 million by 2030. In five major European countries (France, Germany, Italy, Spain and the United Kingdom) the number of NASH patients is estimated at 12.6 million, with a strongly anticipated increase to 18.3 million in 2030 (Source: Estes, C. et al., Modeling the epidemic of nonalcoholic fatty liver disease demonstrates an exponential increase in burden of disease. Hepatology, 2018).

NASH detection requires a diagnosis of steatosis. Since there are as yet no specific markers, people with risk factors (slightly elevated blood sugar levels with or without diabetes, high blood fat levels, slight or moderate overweight, high blood pressure, etc.) should first have a blood test with a liver examination, which will detect a potentially abnormal transaminase level. In a second step, it will be necessary to eliminate certain causes since a high transaminase level can be linked to the presence of viruses in the body (hepatitis B or hepatitis C), to rare diseases (drug-induced hepatitis, autoimmune hepatitis) or to over-consumption of alcohol. In a third step, the hepatologist will determine whether it is steatosis. To do this, an ultrasound scan is performed to evaluate the amount of fat in the liver (swelling if steatosis). However, the sensitivity of this examination remains poor to diagnose benign steatosis or progressive steatosis with inflammation, therefore NASH which can be reversible in the early stages of the disease (fatal in the advanced stages, liver transplant necessary).

While research is ongoing, including some stage III clinical studies (OCA from Intercept, Aramchol from Glamed, Emricasan from Novartis, Simtuzumab from Gilead Science, etc.), **to date there is no specific treatment for NASH**. If the disease is diagnosed early enough, simply modifying one's lifestyle (eating less fat, less sugar, doing more physical activity, walking more) allows the fat in the liver to dissolve and thus lower transaminases, and thus a decrease in steatosis, which becomes reversible. Determining the stage of the disease is therefore key to its management, it allows to establish an appropriate monitoring protocol, to predict its evolution and sometimes to determine the indication for a treatment.

The reference examination to evaluate the stage of fibrosis is the histological analysis (microscopic analysis of liver tissue and cells) after a sample is taken during a liver biopsy. However, this **invasive** procedure can expose the patient to **complications** (pain, paralysis, vagal discomfort, etc.) and is **difficult to repeat** over time. In addition, biopsy is a particularly **expensive** procedure and represents a financial challenge for health systems, which could be an obstacle to a large-scale NASH diagnosis. For this reason, non-invasive fibrosis diagnostic tools have been and are being developed. Indeed, unlike biopsy, these tests have the advantage of not being traumatic and can be repeated as often as necessary.

Elastometry (or Fibroscan), for example, is a probe that emits vibrations or ultrasounds (same technique as ultrasound) that will pass through the tissue and bounce off it back to the same probe. Depending on the speed of return of the echo, the device will measure the elasticity of the liver. Indeed, the more fibrosis there is in the liver, the harder the liver is. However, the thresholds that define the degree of fibrosis can vary according to several parameters such as the cause of liver disease (different thresholds between viral hepatitis, alcoholic cirrhosis, biliary disease, etc.) or inflammation in the liver (often reflected by elevated transaminases). In some patients, **the results obtained are aberrant** due to the difficulty of measurement. For some, finally, **measurement is impossible** (presence of ascites, overweight, etc.). In the majority of cases, this measurement will therefore be correlated with another non-invasive examination of fibrosis, such as blood markers. Other imaging methods are also used, such as MRI (Magnetic Resonance Elastography using an MRI and an abdominal belt) or the tools developed by the company Perspectum (in clinical trials, MRI tools specific to hepatic fibrosis).

Blood tests (Fibrotest, Fibrometer, APRI score, FORNS, etc.) can indirectly give results on the fibrosis level through the combination of diverse indicators. The disadvantage of these tests is that **the result is not instantaneous** and, in the case of diseases that alter certain blood parameters, **the results are difficult to interpret**.

Existing tests, both invasive and non-invasive, are still very imperfect, and research is underway to improve analytical tools. It is within this framework that Median Technologies has launched its R&D program.

Challenges in HCC diagnosis

Hepatocellular Carcinoma, or liver tumour, is a malignant tumour affecting the liver tissue. **This type of cancer accounts for more than 90% of liver cancers**. It is relatively common worldwide (particularly in Africa and Asia) where it is the sixth most common cause of cancer and **the third most common cause of death from cancer**; it is less common in Western Europe and the USA, but is on the rise (increase in obesity and diabetes). This cancer usually affects individuals between the ages of 30-50, and causes 660,000 deaths worldwide each year. About half of these deaths occur in China (Source: News-medical.net). It occurs in almost all cases on an abnormal liver, frequently with chronic disease, often at the stage of cirrhosis. The most frequent causes are infection with hepatitis B virus, hepatitis C virus, alcohol intoxication and NASH. HCC can occur to people with a healthy liver, but this is rather exceptional.

The earlier the tumour is detected, the higher the chances of survival, however, in early stages the disease is asymptomatic, which is why it is frequently discovered when diagnosing or monitoring chronic liver disease.

The special feature of HCC is that it is a so-called "hyper-vascular" tumour, i.e. it fills and empties rapidly with arterial blood. At an advanced stage, the tumour invades the large vessels of the liver by sending tumour "buds" into these veins that obstruct and move up the main digestive vascular axis.

HCC must be treated or will inevitably lead to an almost fatal outcome. However, the cause and severity of the underlying liver disease must be taken into account; it is the severity and cancerous extent that will dictate the therapeutic possibilities. Therapeutic options for HCC include liver transplants, chemoembolization, radiofrequency, surgical resection and chemotherapy. Leading and second-line drug research programs and immunotherapy treatments are being developed, as well as studies that combine several approaches.

To diagnose the severity of the disease and thus determine which therapy to adopt, several methods exist: cytological (cytopuncture) or histological (needle micro-biopsy) ultrasound-guided sampling, are invasive techniques. However, there are limitations: i) average sensitivity may be linked to the lesion's accessibility (reduced at the liver's dome) or to difficulties of interpretation, ii) the risk of clustering on the puncture route is low but must be taken into account, especially if a liver transplant is envisaged, iii) the risk of haemorrhagic complications linked to the sample itself.

Moreover, for small nodules, biopsy is very difficult, thus impossible to make a diagnosis. At present, the solution is to wait and see if the tumour evolves. Control examinations should be carried out every three months.

Non-invasive diagnostic tools have thus been developed. Computed tomography (CT) with contrast injection and helical acquisition, and MRI with contrast injection, are the most widely used imaging techniques. These two examinations make it possible to look for a very specific aspect of HCC: arterial vascularisation (intermediate or advanced stage). CT scan and MRI also make it possible to carry out an extension assessment: size and location of lesions, vascular invasion.

Despite all these developments and unlike other solid tumours for which the therapeutic decision is made according to the TNM classification (classification of cancers according to their anatomical extension), **there is no consensus prognostic classification for HCC**. Numerous classifications or scores have been proposed (Okuda, BCLC, CLIP, GRETCH, TNM-AJCC, etc.) but studies comparing them offer conflicting results. A patient may thus be prescribed chemoembolization when a drug treatment would have been better suited.

Research program are under way to determine more suitable diagnostic and monitoring tools, to enable even the disease's early detection and to identify predictive factors for treatment in order to define the optimum therapeutic sequences and combinations for each patient.

Immuno-oncology challenges

Immunotherapy treatments in oncology, or immuno-oncology, allow the body's immune system to relearn how to identify and destroy cancer cells. The result of very active scientific and clinical research, immuno-oncology is revolutionizing cancer treatments.

Immuno-oncology brings together treatments that activate or strengthen the immune defence against the tumour. Its mechanism of action is different from other "classical" treatments in oncology, such as chemotherapy and radiotherapy, which directly destroy cancer cells. The goal of immuno-oncology treatments is to make cancer cells detectable by the body's own immune system by recognising them as "abnormal" and then naturally destroy them.

Immuno-oncology is currently being proposed for the treatment of certain types of cancer. It is one of the possible treatment options and can be combined with other cancer treatments. In practice, immuno-oncology consists mainly of the administration of therapeutic antibodies targeting key proteins that activate the immune system. They are prescribed on a case-by-case basis.

In recent years, immunotherapy has really taken off, as it allows the effective treatment of aggressive metastatic cancers. However, even if any proposed treatment is the one most likely to give the best results, its effectiveness cannot be predicted in advance, and despite unquestionable progress, a large fraction of patients are resistant to these treatments, and their effectiveness is only found in 20-40% of patients treated (Source: Inserm).

The challenge is to identify as early as possible whether patients are receptive to the treatment, in order to be able to react quickly, or in the case of clinical studies to allow pharmaceutical companies to adapt the drugs (formulas, doses, etc.) and/or the study in progress.

III. Proven CRO Expertise in Imaging, Ambitions in Diagnostic Tools

Founded in 2002, Median Technologies is a software publisher and service provider specializing in clinical solutions leveraging medical images. The group offers its services to biopharmaceutical companies via its iSee® platform: analysis and management of medical images for clinical trials, a CRO activity that still represents 100% of the company's revenue today in Europe, North America and China.

On the basis of the know-how developed in the field of imaging (observation of the characteristics of an organism), and thanks to the contribution of the latest advances in data science and artificial intelligence, the group has launched its own life research programs since 2016, the iBiopsy® platform. This is a technology that provides access to information into images that has not been available to date, and which aims to develop diagnostic tools in the field of oncology or in pathologies where detection and prediction needs are still poorly or inadequately met.

A. iCRO: The iSee® Plateform

The group has developed expertise in the field of solid tumor cancers, including the use of artificial intelligence, which enables the extraction of advanced biomarkers with a high-quality level. The iSee® proprietary imaging platform provides expert services for reading images collected in clinical studies, automating and standardizing lesion detection, selection and measurement, and the reduction of human error and missed lesions. Its application contributes to the reduction of result variability and increases the cost-effectiveness and/or efficacy of clinical trials.

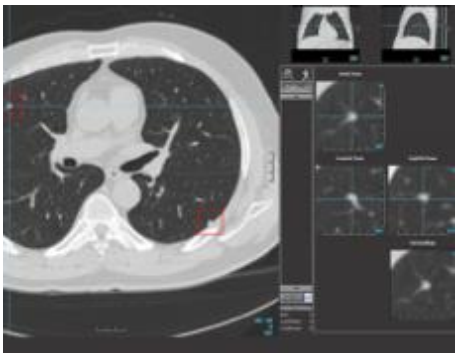
The company works directly with big pharma and biotech companies but also subcontracts with leading CROs in Europe, the United States and China and conducts clinical trials from phase I to phase IV. The billing volume (established on request) depends on the number of patients and the number of hospitals/organizations participating in the studies: potential revenue of €100-200k for phase I studies (identifying the toxicity of treatments), €300k to €1.2m for phase II studies (demonstrating treatment efficacy and defining the optimal dose) and €1-4.2m for phase III studies (comparing treatment efficacy against a placebo or an existing treatment).

In the early phases of clinical trials, iSee® provides more representative data on disease progression, thus accelerating Go-No Go decisions through access to advanced criteria and new biomarkers, comparison with Recist (criteria for the evolution of tumor response, Recist1.1, mRecist or iRecist), short turnaround times, provision of imaging reports and associated images, and integration of data into customer databases.

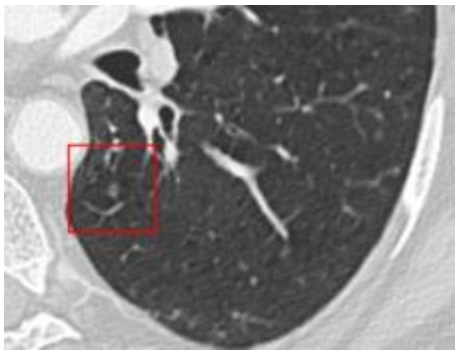
In the late phases, thanks to quality data (FDA validated device), structured and documented, and the provision of complete reports, iSee® enables the preparation of registration with regulatory authorities (FDA, EMA, etc.) and reimbursement files.

The iSee® platform in use

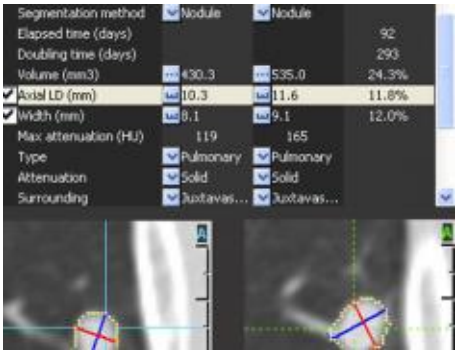
Reading images



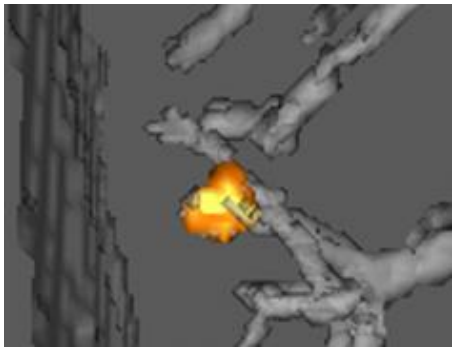
Computer-assisted detection of a lung lesion



Lesion quantification



3D visualization of a lung lesion



Source: Median Technologies

Thanks to the growing success of its solutions, at the end of 2019, the Group had passed the 100 clinical trial milestone and registered a growing number of phase III studies. Revenue thus reached €9m in fiscal year 2019, up 41% compared to 2018. The acceleration in growth was driven by developments in China (44% of sales) with the opening of a subsidiary in Shanghai. In the absence of partnerships with local or international iCROs, as the market has recently developed, and supported by the significant resources devoted to research programs in this country (a fast-growing market), Median Technologies has been able to position itself in this high-potential market. With an order book of €38.3m at the end of 2019 (+62%), the commercial dynamic has certainly been confirmed (€44.4m at the end of March).

In the course of its work, the group has collected a very large amount of data (clinical knowledge), and has developed know-how in image processing and management, data management (big data and data science), in artificial intelligence applied to this speciality, and in the regulatory field. On the strength of these developments and know-how, the managers decided to target other applications in order to identify the specific signatures of certain chronic diseases for their early detection, the quantification of their severity and their monitoring. The objective is twofold: to guide clinicians in their therapeutic decision-making in the context of predictive and precision medicine, and to provide new decision-making tools for the development of new therapies. The R&D programme on iBiopsy® platform was started in 2016. Several indications have already been targeted in the fields of liver diseases, such as NASH or HCC, and in immuno-oncology.

B. Proprietary Research Program: the iBiopsy Platform®

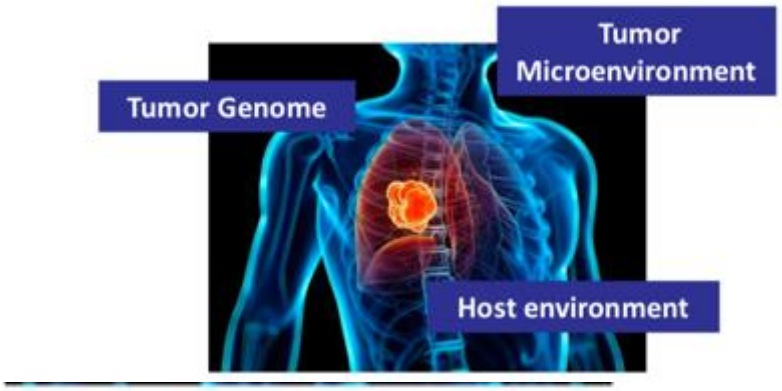
In order to achieve the iBiopsy® project's ambitions, its teams have been strengthened from 2018 onwards to conduct in-house research programs and thus implement and technically validate the digital platform. The objective is to determine new biomarkers and develop algorithms that will make it possible, using imaging coming from standard tools, to diagnose and monitor certain pathologies, in particular cancers for which diagnosis is still complicated.

The strategy consists of extracting signatures from proprietary statistical images while considering the organ as a whole rather than just the lesion. This approach improves tissue coverage, which provides more detailed information at the pixel level, and improves image interpretability compared to a standard lesion segmentation approach. By linking imaging data with other sources of patient data (clinical, histological, clinical data, etc.), it is possible to access new diagnostic information.

The iBiopsy® platform thus aims to identify imaging biomarkers (signatures in the image that are like fingerprints of diseases) that correspond to a clinical fact. For example, iBiopsy® seeks to identify signals in the image that correspond to certain types of cancer, or to liver fibrosis, or to responders - non-responders to immunotherapy. Current clinical studies seek to compare this signal in the image with facts found in the field such as histopathology (biopsy) or a genetic mutation. Once correlated, this should help avoid invasive procedures through the development of reliable image biomarkers.

The platform should enable the development of diagnostics in a multitude of clinical indications, hence the importance of the collaboration agreement with AP-HP to have access to quality data in several indications.

Illustration of the iBiopsy® platform's application in immuno-oncology



Source: Median Technologies

Technically, a similarity search engine allows the comparison of imaging and other data from one patient with those of other patients, identifying a population with similar phenotypes. The clinical records of this population are then analyzed to perform a statistical profiling of the patient, revealing not only probabilities of clinical outcomes, but also different probability rates on several indicators (e.g. clinical and histological characteristics, treatment, outcomes, etc.).

Pheno ID: a tool for personalising medicine

Human beings are a complex sum of our genetic and environmental parts. External variables such as ecology, lifestyle and diet can influence our health status. To guide the practitioner in the creation of an individualized and effective treatment plan, the group is developing new tools: a medical search engine by similarity that evaluates a multitude of factors, and which highlight new biomarkers targeted by pathology : Pheno ID.

The target is to develop tools that allow the probabilization, detection, diagnosis, and prognosis of the evolution of certain pathologies in order to determine the best therapeutic approach, or even to select the treatment adapted to each patient, and thus provide first-rate diagnostic support to practitioners in the follow-up of their patients. The most advanced developments are on liver cancer: Pheno ID Liver.

In terms of indications, the first targets identified, and on which research is conducted via the iBiopsy® platform, concern three major areas: NASH and HCC (liver diseases) and the issue of responsive or non-responsive patients in immuno-oncology, where current diagnostic and treatment solutions are still very inadequate or non-existent.

The first targeted indications

- NASH disease

This liver disease presents several thorny problems:

⇒ A prevalence towards growth linked to deviant eating habits;
⇒ A disease most often asymptomatic;
⇒ Beyond stage 3, the disease is irreversible with no specific treatment to date (transplant necessary);
⇒ Main diagnostic tool: histological analysis, but invasive procedure therefore subject to complications, not always relevant (cell analysis of only part of the liver and difficult to repeat over time), and expensive;
⇒ Non-invasive diagnostic tools are still quite imperfect.

It is in an attempt to meet all or part of these needs that Median Technologies has launched an R&D program in the field of NASH. The objective is twofold:

I) to participate in studies for the discovery of a treatment by identifying a) biomarkers that make it possible to select patients for inclusion in the study, thus reducing the inclusion failure rate and the use of biopsy (an invasive diagnostic method), and thus the costs; and b) biomarkers that make it possible to measure the evolution of the disease (measurement of the effectiveness of the treatments that are the subject of the clinical study) ;

II) develop analytical tools/biomarkers that make it possible to diagnose the disease even at an early stage (reversible and thus save lives) and to measure its evolution (effectiveness of lifestyle change measures and, if necessary, treatment). Beyond the patient benefit, faster treatment of the disease should make it possible to reduce severe forms of fibrosis and the need for transplantation, and thus reduce treatment costs.

- HCC

The stakes of this disease:

⇒ The third leading cause of cancer death;
⇒ A complicated diagnosis because it's asymptomatic at an early stage and difficult to detect (tumor <1-2 cm);
⇒ A prognosis still impossible at an early stage even if the diagnosis is made: waiting to see if the tumor evolves;
⇒ Treatment is necessary beyond a certain stage, but it is difficult to determine the most appropriate treatment and to establish prognosis.

The research conducted by Median Technologies via the iBiopsy® platform is part of this framework, and aims to detect HCC in particular at early stages based on conventional imaging tools, and thanks to the provision of new biomarkers to be able to determine a treatment adapted to each patient, whatever the stage of the disease. The earlier HCC is detected, the greater the probability of survival. For advanced patients, earlier detection of the disease is expected to reduce treatment costs.

In addition, based on the analysis of the tumour, its microenvironment or the patient's own environment, the group's research programme aims to develop new non-invasive biomarkers that will make it possible, using standard imaging tools, to predict the course of the disease: probability of recurrence for patients who will have chosen a curative option (partial removal of the liver, possible at early stages), the need for adjuvant treatments (second line, complementary to first line treatment), or the lack of action for patients at an early stage but for whom the tumor will not progress; but also to measure the effects of treatments (response to immunotherapy treatments).

In the case of clinical studies, the aim is to select potentially susceptible patients (prior screening) to reduce inclusion failures even at early stages.

- Immuno-oncology

The stakes of these new personalized treatments are:

⇒ A small proportion of responsive patients;
⇒ Rapid measurement of the probability of susceptibility still difficult;
⇒ Treatments sometimes toxic for some patients;
⇒ Treatments are very expensive.

The challenge of the iBiopsy® platform is to develop a model that makes it possible, based on non-invasive biomarkers, to determine which treatment will be best suited to each patient, depending on the tumor, the characteristics of the patient himself or his environment.

In the case of clinical studies, the objective is to select potentially receptive patients (prior screening) to reduce inclusion failures, and to measure during the study the efficacy or otherwise of the molecules that are the subject of the research program to enable pharmaceutical companies to adapt the drugs (formulas, doses, etc.) and/or the study itself, leading to a reduction in study costs and duration.

In the case of the clinical routine of patients with solid tumors, the challenge is to identify as early as possible which patients may be receptive and towards which type of treatment they should be directed. Once treatment has been started, the use of the iBiopsy® platform should make it possible to determine as quickly as possible whether the patient is really receptive to the treatment, and/or if there are toxic side effects, and thus to be able to react quickly if necessary. Beyond the patient benefit, this should make it possible to reduce the cost of treatment while increasing its effectiveness.

Although iBiopsy® activity has not yet generated any revenue to date, it represents around a quarter of the teams and three-quarters of the R&D teams. In just four years, the results obtained have led to several major achievements: €35m in financing obtained from the European Investment Bank (H1 2019), a first research agreement signed with AP-HP (H1 2010), and promising initial results.

Major advances

- EIB financing of €35m with stock warrants

In December 2019, Median Technologies announced the signing of a €35m financing agreement with the European Investment Bank (EIB) in the field of Juncker investment plan to fund the iBiopsy® platform investment program.

The first €15m tranche was drawn in April 2020. The contract then provides for the release of the second and third tranches (of €10m each) in the coming years, subject to the fulfilment of certain conditions. Repayment of this financing will take place as a single instalment at the end of a period of five years from the payment of the tranche concerned.

The release of the tranches will be accompanied by the issue of BSAs to the EIB (subscription price of €0.01): 800,000 BSAs on payment of the first tranche, and 300,000 BSAs on release of the second tranche. The exercise price of the warrants will be determined on the basis of the price of one or more fund raising(s) of at least €15m carried out within 15 months of the subscription date, to which an increasing discount will be applied over time, with a minimum of €2 from the 16th month (i.e. a minimum of €2.2m). The life of these warrants is 15 years.

- Research contract with AP-HP

In April 2020, management signed a research collaboration contract around the iBiopsy® platform with AP-HP (Assistance Publique des Hôpitaux de Paris), one of the largest sources of medical data worldwide, with teams led by renowned doctors. To date, the collaboration contract covers the conduct of two clinical studies on liver cancer involving the Pitié-Salpêtrière and Paul Brousse hospitals. This framework agreement offers the possibility of extending the collaboration to other studies or clinical indications.

The first study, PHELICAR, aims to study from medical images the phenotypic heterogeneity of liver cancer (the result of complex development systems influenced by genes as well as environmental factors) and its impact on the diagnosis and prognosis of patients. The second study, LIVER IBIOPSY, should make it possible to identify, again from medical images, phenotypes (characteristics specific to each individual) of liver lesions at high risk of recurrence, which will have an impact on the monitoring and treatment of these patients at risk.

Liver cancer is the fourth leading cause of cancer death worldwide in all populations (GLOBOCAN 2018 Study) with a 5-year survival rate of 18%. It is a cancer for which therapeutic strategies are difficult to implement because of the very great heterogeneity of liver tumors. These two studies respond to unmet medical needs in terms of early diagnosis, patient prognosis and dynamic monitoring of response to treatment, and aim at the clinical validation of iBiopsy® as an innovative, reliable and non-invasive technology for the phenotyping of liver lesions. These studies are part of the context of increasingly predictive and personalized medicine.

For the group, the clinical expertise provided by the AP-HP hospitals and the large amount of data made available (clinical data and quality imaging data), will help to rapidly optimize the artificial intelligence algorithms developed in iBiopsy® and thus validate the platform from a clinical point of view on large cohorts, with a controlled budget (access to clinical data that is often very costly).

- First promising results

After an initial R&D phase, the research really started in 2018 and the first results are rather promising. The group has carried out trials on the analysis of fibrosis at a stage beyond 3 (non-reversible) of HCC disease. The results were compared with those obtained by other invasive (biopsy) and non-invasive (blood sample or other imaging method) methods of analysis. A first phase of testing was carried out and then the method was improved and validated on a cohort of 94 patients (historical database).

As all diagnostic tests the main datas are the sensitivity and specificity of the tests. The sensitivity (or selectivity) of a test measures its ability to give a positive result when a hypothesis is tested. It is contrasted with specificity, which measures the ability of a test to give a negative result when the hypothesis is not tested.

Sensitivity and specificity measurements show that the non-invasive fibrosis biomarker obtained via the iBiopsy® platform allows the identification of patients at high tumor risk more reliably than current imaging methods. The use of this biomarker could allow better therapeutic orientation for patients (whether or not surgery is used, immediate treatment after surgery, etc.).

These initial results are rather promising, the group needs to confirm the quality of its methods and tools with a larger cohort of patients, patient horizons and imaging tools, hence the partnership with AP-HP to access qualified databases. Results on ongoing developments in the field of Nash and immuno-oncology should also be published in the coming months.

With secured funding and a first-rate research partnership, the development of the iBiopsy® platform is rather well underway. In the short term, the objective is to establish new partnerships (research and technology), protect R&D work through patent applications and launch regulatory work, in particular with the FDA to reference the technologies developed and enter into reimbursement nomenclatures (based on codes already granted to existing diagnostic tools).

In the medium term, the Group could derive significant revenues from the supply of its technology and services in the context of research programs, but above all in the area of diagnostics or patient monitoring. In the longer term, research programs could be launched in other forms of cancer with solid tumours: lung cancer, prostate cancer, etc.

C. A Group Structured for Sustain Growth

From its head office in Sophia Antipolis, France, where the support functions and R&D teams are located, to its sales subsidiaries in North America (six employees at the end of 2019) and China (14 employees at the end of 2019), the group is structured to support future growth.

Median Technologies can also count on a board of directors and an experienced and multicultural management team offering quality backing to the group.

Board of Directors

Oran Muduroglu – Chairman

In 2018, Oran Muduroglu joined Verily as Business Leader of the Health Platforms division. Previously, he was CEO of Medicalis, acquired in 2017 by Siemens, and of the Health Informatics division of Philips Medical Systems. In 1998, he co-founded Stentor, of which he was CEO until its acquisition by Philips in 2005. In the 1990s, he was VP Sales and Marketing at Cemax (a pioneer in advanced medical image management and visualization) and previously Senior Product Manager at Toshiba Medical.

Frédéric Barg – CEO

Frédéric Barg co-founded the company in 2002 and brought to it his skills of business man for innovative companies in health sector and his many years of expertise in business development, fundraising and IPOs of technology companies. He served as Vice President of HealthCenter / Focus Imaging (Specialized Medical Imaging and Information and Communication Technologies).

Tim Haines – Member of the Board

A Managing Partner at Abingworth, Tim Haines has over 25 years of international management experience in life sciences companies. Prior to joining Abingworth in 2005, he was CEO of Astex (Abingworth's portfolio companies), which became one of the UK's leading biotechnology companies. Prior to that he was CEO of two divisions of Datascope Corp. (a listed medical technology company), and he has held management positions in several companies in the US and Europe, including CEO of Thackray Inc. and Baxter UK.

Kapil Dhingra – Member of the Board

Kapil Dhingra is the head of KAPital Consulting, a health consulting company he founded. Prior to joining Advanced Accelerator Applications, Dr. Dhingra worked for more than 25 years in oncology R&D, including 9 years at Hoffman-La Roche where he held several positions. Previously, he was a senior clinical research physician at Eli Lilly. Before starting his career in industry, he spent 8 years in clinical and translational research in the specialties of internal medicine and medical oncology.

Composition of the management team alongside Frédéric Brag, the Managing Director

Bernard Reymann – CFO

Bernard Reymann brings to the group more than 25 years of experience in the field of finance, acquired in major international industrial groups, SMEs and startups. Prior to joining Median, he was CFO and deputy member of the Management Board at Tekka Group, Varioptic and Temex Group. He is a graduate of the European Institute of Higher Commercial Studies in Strasbourg and holds a Master degree from the Institut de Haute Finance in Paris.

Nozha Boujemaa – Head of R&D iBiopsy®

Nozha Boujemaa first directed the work of the IMEDIA/Inria project-team for 10 years (large-scale multimedia content research) before taking over the management of the Inria Saclay research centre from 2010 to 2015. She then served as advisor to the CEO in Data Sciences. In 2017, she founded the DATAIA Institute (interdisciplinary institute on Data Sciences, Artificial Intelligence and Society), which she directed until the end of 2018. A specialist in indexing and interactive information retrieval, Ms. Boujemaa has contributed to the emergence of next-generation large-scale multimedia search engines.

Nicolas Dano – Chief Technical Officer and Director of iCRO

Since 2003, Nicolas Dano brings to the company more than 20 years of experience in health care in the fields of innovation, technology and services. Previously, Mr. Dano held the positions of sales director, strategy manager, project manager and scientist within the company. He previously worked for General Electric's research center (Schenectady, NY, USA) and General Electric's healthcare division (Paris, France).

Yan Liu – Chief Medical Officer

Dr. Yan Liu is an imaging expert with over 15 years of experience in clinical and academic research. For the past six years, she has specialized in the integration of imaging in multi-center oncology clinical trials and the validation of imaging biomarkers. She was head of the Translational Research, Radiotherapy and Imaging Department at EORTC (European Organisation for Research and Treatment of Cancer). She was also a member of the RECIST working group and Chair of the Imaging group of EORTC.

Robin Zhang – Head of CHina and APAC development

Robin Zang has more than 20 years of experience in business development for technology companies and in particular more than 14 years of experience in the life sciences industry (R&D, clinical trials, laboratories). He holds an Executive MBA from Tongji University and Mannheim Business School and a degree in Economics from Lanshou University (Finance and Economics).

Source: Median Technologies

As part of its research programs, management has already set up working groups, which it also intends to strengthen. They are organised by the contribution of renowned KOL (Key Opinion Leader) who actively participate in their developments and who should make it possible to publicise the work as well as the group's technological advances.

The group's customer base is quite varied, consisting of both Big Pharma and world-class CROs, but also small Biotechs working in highly targeted areas. The top client accounted for just over 20% of 2019 revenue and the top 5 accounted for 57%, but the rankings are highly variable from one year to the next. In addition, geographical expansion and the development of new activities with iBiopsy® should contribute to the diversification of the customer portfolio.

In contractual terms, the group has not set up any distribution agreements as part of its indirect commercial strategy (no retrocession of commissions). Rather, the solutions are subcontracted with large CROs or are direct with clients, with the track record of services delivered by Median Technologies offering revenue recurrence with certain clients/order givers, or even revenue growth.

Similarly in technological terms, the group uses third-party tools such as those of AG Mednet for the collection, quality control and distribution of medical images, or the Microsoft Azure platform for cloud solutions. However, the group is not contractually bound to these service providers on an exclusive basis and is constantly studying the technologies available on the market with a view to quality, performance optimization and profitability.

The group's tools and methods meet the requirements imposed by health authorities around the world. The group is frequently audited by its customers, including well-known big pharma companies, and by regulatory authorities such as the FDA (Food and Drug Administration, the regulatory body for healthcare products in the United States, audit in 2017 and 2019).

IV. A Business That Is Taking Off, Its Losses Under Control

A. Revenue up again in 2019

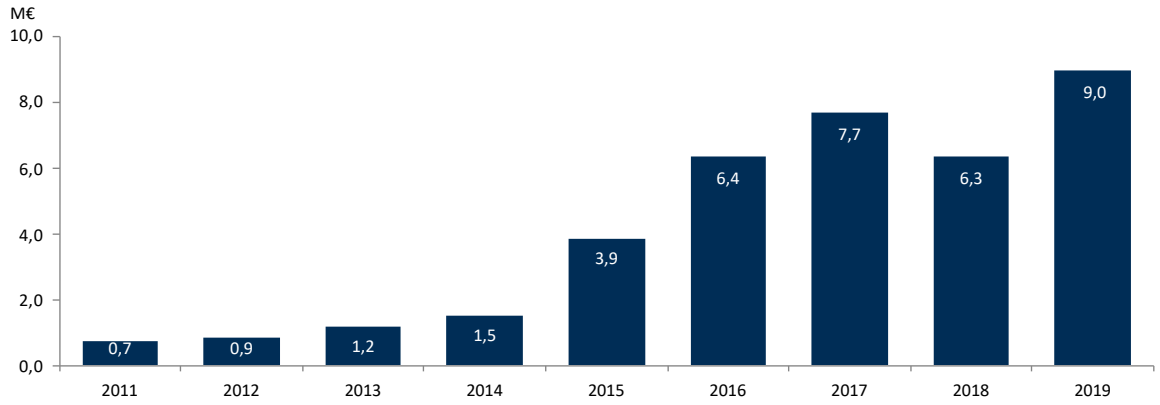
From 2014 to 2017, the group's teams more than doubled from 47 people (annual average) to 109 people, including the establishment of a sales forces in Europe, North America and Asia. Over that period, sales (iSee® platform only) increased from €1.5m to €7.7m (mainly North America and the United Kingdom). However, the generated revenue did not match the expenses incurred, with operating losses rising from €5m in 2014 to more than €17m in 2017 (including development costs for the iBiopsy® platform).

Faced with increasing operating losses, management reacted as early as 2018 by discontinuing certain unprofitable activities (sales of patient care solutions, patient monitoring software tools and associated maintenance) and refocusing their direct marketing efforts on regions (China), customers (key accounts, targeted Biotech, etc.) or key events (trade shows and conferences).

In the American and European markets, the group has opted for a sales approach that is essentially indirect based on its existing partnerships (Syneos, which is in the process of being ramped up), informal collaborations with global CROs, and recurring contracts with long-standing customers.

These measures were initially accompanied by a decline in activity: revenue fell to €6.3m in 2018 (-18%), but thanks to the success of the offering in China, business picked up again in 2019, with revenue rising 41% to €9.0m. The year 2019 benefited from the opening of the Shanghai subsidiary in mainland China, which helped to accelerate sales in this country.

The group's revenue trends



Source: Median Technologies

In terms of revenue sources, the group has not benefited from significant subsidies in the past, but it does benefit from the Research Tax Credit (accounted for as a deduction from personnel expenses and taxes before 2014), amounting to €1.4m in 2019 (nearly €10m in cumulative figures since 2011, the year of the IPO).

Research tax credit trends

K€	2011	2012	2013	2014	2015	2016	2017	2018	2019
CIR	757	1 014	977	978	859	1 024	1 340	1 592	1 409

Source: Median Technologies

B. Reduction of Operating Losses

With the launch of iBiopsy®, the desire to market in-house, and the use of subcontractors for certain some functions linked to iCRO, operating expenses rose sharply over the 2016-2017 period. Thanks to the reorganization measures carried out from 2018 and which continued in 2019 (workforce reductions, recourse to indirect sales channels, and internalization of certain production tools), operating expenses have been significantly reduced over the past two years. The operating loss, which exceeded -€17m in 2017, was reduced to -€15.4m in 2018 and then to -€8m in 2019. The iSee® platform is now at break-even, combining a rebound in activity and a reduction in expense items. The operating loss is solely due to the developments in progress for the iBiopsy® platform, which have been fully expensed in operating expenses (no capitalization of R&D expenses at this stage).

Changes in operating expenses and operating income

M€	2014	2015	2016	2017	2018	2019
Sales	**1,5**	**3,9**	**6,4**	**7,7**	**6,3**	**9,0**
External charges	2,0	3,6	6,1	9,2	10,4	7,5
O/w subcontracting	*0,2*	*0,6*	*1,7*	*2,5*	*2,9*	*2,7*
O/w rents	*0,2*	*0,3*	*0,6*	*0,8*	*1,0*	*0,5*
O/w external services	*0,1*	*0,5*	*0,7*	*1,2*	*1,4*	*0,6*
O/w third parties fees	*0,7*	*1,3*	*1,4*	*1,9*	*1,7*	*1,5*
O/w external staff	*0,0*	*0,0*	*0,1*	*0,5*	*0,6*	*0,2*
O/w transport and mission costs	*0,4*	*0,6*	*0,7*	*1,2*	*1,1*	*0,8*
Labour costs	3,9	5,7	8,7	14,9	10,4	8,6
Average staff	*47*	*57*	*84*	*109*	*103*	*87*
Depreciation	0,1	0,1	0,4	0,3	0,7	0,5
EBIT	**-4,5**	**-5,7**	**-9,3**	**-17,1**	**-15,4**	**-8,0**

Source: Median Technologies

Despite cash consumption of €5-10m per year over the last few years, thanks to the funds raised through private placements with leading investors, the group's financial situation remains healthy: net debt at -€6.5m at the end of December 2019.

C. Successful Fundraising

Since its creation, the company has attracted leading financial investors (European, Japanese, Chinese and American) and industrialists in the sector (Canon). Since 2011, the year of the IPO by direct listing (at a price of €8.05), the group has raised nearly €75m in capital increases without a public offering (between €12.61 and €4.05 per share, weighted average at €10.54).

Cash flow statement and financial structure

M€	2014	2015	2016	2017	2019
Operating profit	**-5,7**	**-9,3**	**-17,1**	**-15,4**	**-8,0**
Financial results	0,2	0,1	-0,1	0,1	0,0
Taxes	0,0	0,1	0,0	0,0	0,0
Net Profit	**-5,5**	**-9,1**	**-17,2**	**-15,3**	**-8,0**
Cash flow	-5,4	-7,7	-14,7	-15,3	-7,4
Capex	-0,3	-0,5	-0,4	-0,3	-0,2
Change in WCR	1,7	0,1	0,9	-0,4	2,9
FCF	**-4,1**	**-8,0**	**-14,2**	**-15,9**	**-4,6**
Disposals	0,0	0,0	0,0	0,3	0,1
Financial investments	-0,1	0,0	-0,1	-0,2	0,0
Dividends	0,0	0,0	0,0	0,0	0,0
Others	0,0	0,0	0,0	0,0	0,0
Available cash flow	**-4,2**	**-8,1**	**-14,3**	**-15,7**	**-4,6**
Change in debt	-0,7	-1,0	-0,5	0,0	-0,5
Change in capital	19,5	20,6	1,3	0,2	0,0
Change in cash	**14,6**	**11,5**	**-13,5**	**-15,6**	**-5,1**
Net debt	-28,8	-41,3	-28,3	-12,7	-6,5
Shareholder's equity	26,2	38,7	24,9	9,1	1,3

Source: Median Technologies

The last significant capital increase was carried out in 2016. The company raised more than €20m (€13.0 per share) from Furi Medical Science Company Luxembourg. The funds raised since then correspond essentially to the BSPCE and BSA activities.

A structurally negative WCR should be noted (-€6.7m at the end of December 2019). Indeed, in the iCRO activity, at the time of the conclusion of contracts, the group receives a down payment of 20-30% which is either deducted from the billings on a run-of-the-mill basis or reimbursed at the end of the contract. Any increase in activity is therefore accompanied by a cash resource for this division.

Net debt thus amounted to -€6.5m at the end of 2019 (-€2.8m estimated at the end of Q1 2020 due to late collection as a result of the health crisis), which combined with the financing obtained from the EIB (€35m for the iBiopsy® platform) should enable the group to finance its developments. However, with shareholders' equity reduced to €1m, we believe that management may choose to carry out another capital increase to strengthen the group's financial strength.

V. Outlook

A. Business Will Be Driven by iCRO in the Short-Term, iBiopsy® in the Long-Term

iCRO business

With an order book of €38.3m at the end of 2019, up 62% compared to 2018 (of which 56% in China vs. 39% in 2018), which should be realized within three years, activity for the iSee® platform should remain dynamic in the coming years.

It should be noted that despite the Covid-19 effect at the beginning of the fiscal year, order intake continued, with a backlog of €44.4m at the end of March 2020. Other regions have taken over, such as China, which now accounts for 46% of the order book.

Development of the order book for iCRO activity

M€	2014	2015	2016	2017	2018	2019	T1-20
Order book	11,0	21,3	16,0	22,5	23,7	38,3	44,4
Change		93,6%	-24,9%	40,6%	5,3%	61,6%	-

Source: Median Technologies

In Europe and North America, the marketing strategy is expected to continue with a targeted direct approach and the use of indirect sales. The teams in China should be strengthened to support the quality of services offered in a still strongly buoyant environment.

Even though the health crisis has penalized business, from the start of the year in China and then from mid-March in other regions of the world (fewer images to be analysed due to the widespread confinement and slowdown in research program), Q1 revenue came to €2.8m, up nearly 50% compared with Q1 2019, and +8% compared with Q4, reflecting the group's dynamism.

Furthermore, in the context of the multiple clinical trials on Covid-19 treatments (several hundred), imaging is a key tool for diagnosing patients. Indeed, the monitoring of the evolution of the pathology and the efficacy of the treatments administered during the test is carried out based on the quantification of visible pulmonary fibrosis in CT imaging. With their expertise in image processing in clinical trials, the managers have positioned themselves to offer Median Technologies' services to biopharmaceutical clients in China, Europe and the United States who have launched programs to discover a treatment for Covid-19. These services will enable the stratification of patients on objective criteria of disease severity (grades) as well as the evaluation of treatment efficacy based on the progression/regression of pulmonary fibrosis. The current health crisis could be a source of income, even significant, given the number of studies launched worldwide at present.

iBiopsy® business

For the iBiopsy® project, the financing obtained from the EIB (including €15m already received in H1 2020) should cover investments around a few targeted indications, namely:

- A test for the evaluation of NASH and tests to assess patients' response to the treatment;
- A test to identify patients who are potential responders to immuno-oncology treatments to enable biopharmaceutical companies to better target the efficacy of their treatment during clinical testing phases and to match the right treatment to the right patients in the clinical routine;
- A test for the detection, characterization and prognosis of HCC (promising results for the analysis of advanced fibrosis).

In addition, an evaluation of commercial strategies for the reimbursement of tests, and regulatory strategies, in particular with regard to the FDA (Food and Drug Administration), have also been launched.

The managers also intend to pursue their partnership strategy in this division:

- Clinical partnerships with healthcare institutions, the first of which was signed last March with the AP-HP: clinical validations of algorithms, evaluated as any diagnostic tool (sensitivity or ability to detect, specificity or ability to detect false negatives and not produce false positives, etc.).), with the advantage of being able to use retrospective data;
- Partnerships with biopharmaceutical companies worldwide: co-development agreements in a given indication to determine a biomarker that will make it possible to assess whether a treatment works or not, and quickly;
- Technology partnerships to enable the deployment, through the cloud, of the iBiopsy® platform, and the development of non-invasive biomarkers, which will be made available to healthcare institutions for clinical routine and to biopharmaceutical companies as part of research and development programs. Partnerships to improve the platform are also possible, such as in the field of artificial intelligence.

Finally, the group should deploy a strategy of intellectual property protection with several patents pending in Europe, the United States, China and Japan.

Eventually, the division's revenues should therefore be of several types:

⇒ from participation in research to identify new biomarkers to be incorporated into new diagnostic tools;
⇒ from the use of the iBiopsy® plateform by biopharmaceutical companies and research institutions (fee-for-service);
⇒ from diagnostic tests to be developed by the group: remuneration per diagnosis that could be reimbursed based on the classification of current imaging diagnostic tools.

Business outlook

Given the performance achieved by the iCRO division over the last few years (large open accounts, ramp-up and recurrence), the backlog at the end of March, the dynamism of the underlying market and the company's positioning in China (the market's growth engine today), we have incorporated sustained growth assumptions for the iCRO division over the next few years : +50% expected for 2020 (+49% in Q1 despite the Covid-19 impact on activity), +45% in 2021 and +40% in 2022, enabling the division's revenue to triple in 3 years.

For the iBiopsy® business, in view of the progress of the group's research programs (initiated in 2016), we estimate that revenue from the Pheno ID tool and from participation in research work should arrive within two years, with a gradual take-off in the first few years.

The added value of the iBiopsy® platform should probably make it possible to implement higher tariffs than with iSee® plateform. Moreover, the first targeted indications offer significant potential. For example, the FDA and the EMA recognize the need for a non-invasive biomarker to screen patients included in anti-fibrotic trials, in order to define homogeneous patient cohorts for the validation of new treatments by biopharmaceutical companies, and thus increase the statistical power of trial data. In addition, laboratories need a reliable diagnosis of fibrosis in patients to assess response to treatment, and FDA and EMA authorities advise to use test to follow patient in clinic routine. The problems are the same in the field of immunotherapy, with the upstream identification of potentially receptive patients and the rapid detection of non-receptive patients. Finally, analytical tools should be developed in other indications, offering new growth drivers in the long term.

Revenue from participation in research work on the iBiopsy® platform and the provision of Pheno ID could therefore be significantly higher than those generated by the iSee® platform and with significantly higher margins (software with few services). However, at this stage it is still difficult to anticipate such a scenario, but more importantly, what is the horizon? For reasons of prudence, we therefore expect lower revenue for the iBiopsy® division (revenue from participation in research work and use of Pheno ID tools) but with faster growth. In fact, we believe that given the client accounts already opened in the iSee® activity, the ramp-up of revenues should, in our opinion, be faster than for the first platform developed by the group (revenues increased from €1m in 2010 to €9m in 2019).

For the third source of revenue from the iBiopsy® platform, i.e. diagnostic tests, as the time to research, market and adoption by practitioners is more difficult to estimate, we have not included revenue in our model for reasons of caution. The group is developing these solutions in an era when diagnostic tools do not provide satisfactory responses. If the research programs are successful, the use of the iBiopsy® platform should be facilitated, and could represent very significant, recurring and highly profitable revenue (scalability of the analysis tool).

Summary of business forecasts by division

M€	2017	2018	2019	2020E	2021E	2022E	2023E	2024E
iSee®	**7,7**	**6,3**	**9,0**	**13,4**	**19,5**	**27,3**	**35,4**	**42,5**
Change	21,0%	-17,5%	41,2%	50,0%	45,0%	40,0%	30,0%	20,0%
iBiopsy®	**0**	**0**	**0**	**0**	**0,7**	**2,0**	**4,0**	**7,0**
Change	-	-	-	-	-	186%	100%	75%
O/w PhenoID	-	-	-	-	0,5	1,5	3,0	4,0
O/w Research works	-	-	-	-	0,2	0,5	1,0	3,0
O/W Diagnostic tests	-	-	-	-	-	-	-	-
Total Sales	**7,7**	**6,3**	**9,0**	**13,4**	**20,2**	**29,3**	**39,4**	**49,5**
Changes	**21,0%**	**-17,5%**	**41,2%**	**50,0%**	**50,2%**	**45,1%**	**34,8%**	**25,6%**

Source: Midcap Partners

Overall, we forecast a 50% increase in the group's 2020 and 2021 revenue, to €13.4m and €20.2m respectively. Over the next five years, we expect Median Technologies' revenue to grow at an average annual rate of more than 40%.

B. Positive Operational Results Within Five Years

iCRO Business

In the iCRO division, according to management, results were balanced in 2019 and cash generation was positive. In order to optimize the platform and support business growth, the group should continue to invest in this division, which we do not expect to generate significant margins over the next few years. Once critical mass is reached, any increase in business should be accompanied by a significant increase in profitability to achieve double-digit operating margin, as most successful CROs do.

iBiopsy® business

The group's research programs are carried out on the development of analytical and diagnostic tools based on cross-imaging with other patient data, which involves much lower research expenditure than in the context of drug research (no tolerance or toxicity research phase) or even other diagnostic tools (possibility of using historical databases).

After four years of research and development, we estimate investments related to the iBiopsy® platform to be between €5-10m per year, mainly on the diagnostic part without capitalization of R&D expenses. For the research collaboration and Pheno ID (multi-criteria biofeedback) part, we estimate that operating expenses should remain limited, allowing us to reach break-even quickly after the start of sales (by 2024 in our scenario), and generate a double-digit operating margin (potentially higher than that of the iCRO business given the additional value added by iBiopsy® solutions equipped with innovative analysis tools).

Operating margin forecasts

Overall, we estimate a 2020 operating loss comparable to that of 2019, i.e. -€8.0m, followed by a gradual reduction to reach operational equilibrium within five years in our scenario.

Operating profit forecast, breakdown by division

M€	2019	2020E	2021E	2022E	2023E	2024E
iSee®	-	**0,0**	**0,4**	**1,6**	**3,5**	**5,1**
% of sales			2,0%	6,0%	10,0%	12,0%
iBiopsy®	-	**-8,0**	**-7,5**	**-6,0**	**-5,2**	**-4,2**
% of sales		-	-	-	-	-20%
Total EBIT	**-8,0**	**-8,0**	**-7,1**	**-4,4**	**-1,7**	**0,9**
% of sales	-	-	-	-	-	**1,6%**

Source: Midcap Partners

Please note that our scenario only integrates EIB financing for the iBiopsy® platform. If new funding, particularly through a capital increase, were to be obtained, research programs, and thus expenditure, could be speeded up.

C. Forecast of Cash Generation & Needs

With the drawdown of the EIB financing last April, the group should, in our opinion, pay interest of €0.7m net of financial income estimated per year (only 9 months in 2020). In our scenario, we have included the drawdown of tranche 2 in 2022, leading to financial expenses in excess of €1m from that date. In the absence of taxes, we expect net income to remain at around -€8m in 2020 and 2021, after which net losses should gradually reduce.

Taking into account the improvement in operational performance combined with a structurally negative WCR, which evolves in parallel with the activity (customer advances), the FCF should in our view become positive within five years (2023-2024 in our scenario).

Net income and cash generation forecasts

M€	2016	2017	2019	2020E	2021E	2022E	2023E	2024E
Operating profit	**-17,1**	**-15,4**	**-8,0**	**-8,0**	**-7,1**	**-4,4**	**-1,7**	**0,8**
Financial results	-0,1	0,1	0,0	-0,5	-0,8	-1,3	-1,3	-1,2
Taxes	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Net Profit	**-17,2**	**-15,3**	**-8,0**	**-8,5**	**-7,9**	**-5,7**	**-3,0**	**-0,5**
Cash flow	-14,7	-15,3	-7,4	-8,0	-7,3	-5,2	-2,5	0,1
Capex	-0,4	-0,3	-0,2	-0,5	-0,5	-0,5	-0,5	-0,5
Change in WCR	0,9	-0,4	2,9	2,0	2,4	3,6	3,1	3,1
FCF	**-14,2**	**-15,9**	**-4,6**	**-6,5**	**-5,5**	**-2,1**	**0,1**	**2,6**
Disposals	0,0	0,3	0,1	0,0	0,0	0,0	0,0	0,0
Financial investments	-0,1	-0,2	0,0	0,0	0,0	0,0	0,0	0,0
Dividends	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Others	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Available cash flow	**-14,3**	**-15,7**	**-4,6**	**-6,5**	**-5,5**	**-2,1**	**0,1**	**2,6**
Change in debt	-0,5	0,0	-0,5	15,0	0,0	10,0	0,0	0,0
Change in capital	1,3	0,2	0,0	0,0	0,0	0,0	0,0	0,0
Change in cash	**-13,5**	**-15,6**	**-5,1**	**8,5**	**-5,5**	**7,9**	**0,1**	**2,6**
Dette nette	-28,3	-12,7	-6,5	0,0	5,4	7,6	7,4	4,8
Capitaux propres	24,9	9,1	1,3	-7,2	-15,1	-20,8	-23,8	-24,3

Source: Midcap Partners

Based on our forecasts for the Free Cash Flows, the financing obtained from the EIB should be able to finance the needs of the next few years. However, with shareholders' equity at only €1.3m at 31 December 2019, and losses expected in the coming years, management may choose to resort to new capital operations to strengthen the group's balance sheet. In the current market environment, we believe that the private placement solution, as has been the case in historical fundraising, may be the preferred option.

VI. Valuation by the Sum of Parts Approach

At the end of 2019 there were a number of dilutive instruments:

- BSAs allowing the creation of 944,442 shares at a price of €9 for the 2014 BSAs (maturing in 2021) and 120,000 shares at a price of €10.0 for the 2018 BSAs;
- Stock options allowing the creation of 385,016 shares at a price of €1.5 per share;
- BSPCE allowing the creation of 4,000 shares at a price of €6.5.

Since the end of the financial year, and with the drawdown of the first tranche of financing from the EIB, 800 000 warrants (1:1 parity) have been issued which will allow the creation of shares based on the price of a fund raising of at least €15m to which a discount will be applied with a floor price of €2 per share.

In addition, at the end of 2019, the group had a tax loss of €30m, which should enable the group to avoid paying taxes for several years.

A. Valuation of the iCRO et iBiopsy® Divisions

DCF

We based our model on the following assumptions:

- Strong revenue growth over the next five years (good visibility over three years thanks to an order book of over €44m at the end of March 2020), then a gradual slowdown;
- A double-digit operating margin at cruising speed: 15% at term in our scenario;
- A WCR that remains negative (customer advances at the time the contract is signed) ;
- A discount rate of 9.0% (success now proven, deployment in progress) and growth in cash flow to infinity at 1.5%.

DCF scenario

M€	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Sales	13,4	19,5	27,3	35,4	42,5	46,8	49,1	51,1	52,6	53,7
Change	50,0%	45,0%	40,0%	30,0%	20,0%	10,0%	5,0%	4,0%	3,0%	2,0%
Operating profit	**0,0**	**0,4**	**1,6**	**3,5**	**5,1**	**6,5**	**7,1**	**7,7**	**7,9**	**8,0**
Margin	0,0%	2,0%	6,0%	10,0%	12,0%	14,0%	14,5%	15,0%	15,0%	15,0%
(-) Taxes	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
NOPAT	**0,0**	**0,4**	**1,6**	**3,5**	**5,1**	**6,5**	**7,1**	**7,7**	**7,9**	**8,0**
(+) D&A	*0,2*	*0,3*	*0,3*	*0,3*	*0,4*	*0,3*	*0,2*	*0,2*	*0,2*	*0,2*
D&A of sales	1,8%	1,6%	1,1%	0,8%	0,9%	0,5%	0,4%	0,4%	0,4%	0,4%
ΔWCR	2,0	2,0	2,9	2,3	1,9	1,3	0,7	0,8	0,6	0,4
Operating CF	**2,2**	**2,7**	**4,8**	**6,2**	**7,4**	**8,1**	**8,0**	**8,7**	**8,7**	**8,7**
(-) CAPEX	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3
% CAPEX of sales	*1,9%*	*1,3%*	*0,9%*	*0,7%*	*0,6%*	*0,5%*	*0,5%*	*0,5%*	*0,5%*	*0,5%*
FCFF	**2,0**	**2,4**	**4,6**	**5,9**	**7,1**	**7,9**	**7,8**	**8,4**	**8,5**	**8,4**
Discounted FCF	**2,0**	**2,2**	**3,9**	**4,6**	**5,1**	**5,1**	**4,6**	**4,6**	**4,2**	**3,9**

Sum of FCF	40,2
Terminal value discounted	48,2
(+) Equity method	0,0
EV	**88,3**

Source: Midcap Partners

Overall, our valuation approach using the DCF method shows a valuation of €88m for the iCRO division alone (in enterprise value).

Sensibility table

		Infinite growth				
	88,3	0,5%	1,0%	**1,5%**	2,0%	2,5%
WACC	7,0%	110,3	116,2	123,1	131,4	141,6
	8,0%	94,3	98,4	103,0	108,4	114,8
	9,0%	82,2	85,1	**88,3**	92,0	96,3
	10,0%	72,8	74,9	77,2	79,8	82,8
	11,0%	65,2	66,7	68,5	70,4	72,5

Source: Midcap Partners

Market comparisons

We conducted our research with world-class listed European or American CROs. Our sample thus consists of 8 companies.

Characteristics of the Peers Sample

Company	Price (€)	Market Cap (M€)	Sales 2019 (M€)	EBIT 2019 (M€)	EBIT/Sales 19
ICON	142,4	7 478	2 562	394,0	15,4%
IQVIA Holdings	125,5	23 968	10 049	758,8	7,6%
Syneos Health A	49,4	5 144	4 249	313,7	7,4%
Charles River Labs Intl	160,5	7 940	2 452	372,4	15,2%
PRA Health Sciences	86,3	5 492	2 815	316,6	11,2%
PPD	23,9	8 326	3 602	381,0	10,6%
Medpace Holdings	79,2	2 803	802	123,2	15,4%
Bio-Rad Laboratories A	404,9	12 003	2 097	246,0	11,7%
Median Technologies	**5,0**	**60,5**	**9,0**	**-8,0**	**Na**

**Share price as of 16 June 2020*

Sources: Facset, Midcap Partners

Given the maturity of Median Technologies' iCRO division (no significantly positive result before 2022 in our scenario), the multiples based on the results are not very relevant. In our approach, we have retained only revenue multiples. The median of our sample is 3.4x of 2020 revenue.

Sample of peer multiples

Company	PE		EV/Sales		EV/EBITDA		EV/EBIT	
	2020	2021	2020	2021	2020	2021	2020	2021
ICON	27,2x	21,6x	3,0	2,7	18,9	15,3	22,3	17,7
IQVIA Holdings	24,0x	19,3x	3,4	3,1	16,4	14,1	19,0	16,1
Syneos Health A	18,9x	14,9x	1,9	1,6	14,2	11,5	16,1	13,1
Charles River Labs Intl	26,2x	22,0x	3,8	3,4	16,4	14,2	20,3	17,5
PRA Health Sciences	22,7x	17,3x	2,3	2,0	15,7	12,1	17,4	13,5
PPD	26,5x	20,9x	3,1	2,7	16,3	13,7	18,9	15,5
Medpace Holdings	36,1x	25,0x	3,6	2,8	24,3	16,4	27,4	17,9
Bio-Rad Laboratories A	63,6x	50,2x	6,4	6,0	35,6	31,3	50,3	41,9
	0,0	0,0	0	0	0,0	0,0	0,0	0,0
Median	**26,3**	**21,2**	**3,3**	**2,7**	**16,4**	**14,2**	**19,7**	**16,8**

Source: FactSet, Midcap Partners

While our comparable set is significantly larger, its growth prospects are lower. Furthermore, the revenue generated by the group at the present time (€2.8m in Q1) does not really reflect the division's commercial dynamics: order book at €44.4m at the end of March. In order to best reflect the value of the technology developed by the group in its iCRO business, it seems more relevant to apply the

revenue multiple obtained at the level of the backlog, resulting in a value of €145m, and to update it to today (3-year backlog) on the basis of the WACC used for the DCF approach (9%). The value of the division by this method thus comes to €112m by stock market comparisons.

Industry Transactions

As the CRO and healthcare software/services/publishing market are buoyant segments, there are numerous merger/acquisition operations in the sector, to penetrate new customers, to complete a geographical region, to acquire know-how or technology, etc. The CRO market is a very dynamic one. However, most often the multiples are not made public, which limits the sample selected.

Transaction multiples

Target	Buyer	Year	EV	Sales	EV/Sales	EV/EBITDA
ActiveCare	Telcare	2018	17,6	6,4	2,8	Na
Advance Medical Health	Teladoc	2018	308,9	54,0	5,7	Ns
Albany Molecular Research	The Carlyle Groupe	2017	1 372,0	557,2	2,5	26,8
Analogic Corp.	Altaris Capital	2018	718,5	381,6	1,9	18,8
Aptuit LLC	Evotec	2017	255,4	88,0	2,9	Nc
Bioclinica	Cinven	2016	1 152,0	Nc	Nc	Nc
Chilter International	Covance	2017	993,9	558,7	1,8	Nc
Cogentix Medical	Laborie Medical Tech.	2018	168,5	45,7	3,7	Ns
Dharmacon research	Horizon Discovery Group	2017	74,7	31,7	2,4	16,0
Electrical Geodesics	Philips Holding	2017	33,5	12,8	2,6	Na
Gatan	Ametek	2019	845,4	164,5	5,1	Nc
Genewiz	Brooks Automation	2018	381,8	70,5	5,4	Nc
IMS Health	Quintiles	2016	11 208,3	2 660,4	4,2	17,1
Kinapse	Syneos Health	2018	77,6	36,7	2,1	Nc
Medidata solutions	Dassault systemes	2019	5 084,4	583,3	8,7	67,4
Parexel	Pamplona Capital	2017	4 404,4	2 172,6	2,0	14,7
The Advisory Board	Optuminsight	2017	2 231,4	668,4	3,3	Nc

Source: Facset

The average transaction multiple is 3.6x revenue. Given the limited data in terms of multiples of results, we cannot establish standard data at this level. On the basis of the order book released at the end of March 2020 for the CRO division, updated to today (WACC retained for the DCF, i.e. 9%), the estimated enterprise value is €122m.

Valuation Summary of the iCRO Platform

The average of our three valuation approaches shows an enterprise value of €108m for the iCRO division.

Average of our valuation approaches

M€	EV
DCF	88
Peers	112
Transaction multiples	122
Average	**108**

Source: Midcap Partners

B. Valuation of the iBiopsy® Platform

Research work and Pheno ID

While the first indicators of the iBiopsy® platform are rather promising (EIB financing of €35m, partnership with AH-HP, promising first results in the NASH field, etc.), it is still difficult to assign a value to the technology developed.

Given the low revenue level expected for the next two years, but above all the fact that profit generation is still a long way off, we have chosen to enhance the values of the research and the tools developed for third parties (Pheno ID), using a DCF approach only.

We are basing our model on the following assumptions:

- Strong revenue growth in the early years and a gradual slowdown, five years after revenue begins to flow, i.e. from 2026 onwards;
- A double-digit operating margin at cruising speed: 25% in our scenario;
- A WCR that remains negative (customer advances at the time of signing the contract);
- A discount rate of 12.0% and growth in cash flow from infinity to 1.5%.

DCF scenario

M€	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Sales	0,0	0,7	2,0	4,0	7,0	10,5	13,7	16,4	18,8	20,7
Change	*0,0%*	*NA*	*185,7%*	*100,0%*	*75,0%*	*50,0%*	*30,0%*	*20,0%*	*15,0%*	*10,0%*
Operating profit	**-2,0**	**-1,5**	**-1,0**	**-0,2**	**0,8**	**1,9**	**2,9**	**3,8**	**4,7**	**5,2**
Margin	-	-	-	-	*12,0%*	*18,0%*	*21,0%*	*23,0%*	*25,0%*	*25,0%*
(-) Taxes	0,0	0,0	0,0	0,1	-0,2	-0,5	-0,8	-1,1	-1,3	-1,5
NOPAT	**-2,0**	**-1,5**	**-1,0**	**-0,1**	**0,6**	**1,4**	**2,1**	**2,7**	**3,4**	**3,7**
(+) D&A	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*
D&A of sales		37,7%	13,2%	6,6%	3,8%	2,5%	1,9%	1,6%	1,4%	1,3%
ΔWCR	0,0	0,4	0,6	0,8	1,1	1,4	1,2	1,1	1,0	0,8
Operating CF	**-1,7**	**-0,9**	**-0,1**	**0,9**	**2,0**	**3,0**	**3,6**	**4,1**	**4,6**	**4,8**
(-) CAPEX	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3	-0,3
% CAPEX of sales		*35,7%*	*12,5%*	*6,3%*	*3,6%*	*2,4%*	*1,8%*	*1,5%*	*1,3%*	*1,2%*
FCFF	**-2,0**	**-1,1**	**-0,4**	**0,7**	**1,8**	**2,7**	**3,3**	**3,8**	**4,4**	**4,5**
Discounted FCF	**-2,0**	**-1,0**	**-0,3**	**0,5**	**1,1**	**1,6**	**1,7**	**1,7**	**1,8**	**1,6**

Sum of FCF	6,7
Terminal value discounted	14,0
(+) Equity method	0,0
EV	**20,7**

Source: Midcap Partners

Overall, our approach using the DCF method shows a valuation of nearly €21m for the research activities and alone (in enterprise value).

Sensibility table

		Infinite growth				
	20,7	0,5%	1,0%	**1,5%**	2,0%	2,5%
WACC	10,0%	26,3	27,4	28,7	30,1	31,7
	11,0%	22,5	23,3	24,2	25,3	26,4
	12,0%	19,4	20,0	**20,7**	21,5	22,3
	13,0%	16,8	17,3	17,9	18,5	19,1
	14,0%	14,7	15,1	15,5	16,0	16,5

Source: Midcap Partners

It should be noted that if the initial research results obtained with iBiopsy® were to be confirmed, and on the basis of the first targeted indications alone, the platform's revenue and results could be much higher than what we have integrated into our scenario at this stage.

Diagnostic tools

While it is difficult at this stage to value the diagnostic tools for which research and development work is in progress (NASH, HCC, immunotherapy, etc.), certain companies operating in similar universes can give indications of Median Technologies' potential in the event of success in one or more of its indicators.

Indeed, some companies looking for non-invasive diagnostic solutions for unaddressed or misaddressed pathologies have recently crossed the stock exchange threshold on the American market. For example:

- ⇒ **Guardant**: development of blood tests for all stages of cancer. Listed on the stock exchange in October 2018, today valued at around $8bn ($215m in revenue and -$82m in 2019 EBIT);
- ⇒ **Adaptive Biotech**: research into new diagnostic tests in the field of cancer by detecting, measuring and monitoring cancer cells present in the blood during and after treatment, and research partnerships in the field of immunotherapy. Listed since June 2019, with a market cap. of more than $5.5bn ($85m in revenue and -$79m in 2019 EBIT);
- ⇒ Grail: research in the detection of early-stage cancer via blood sampling, was a candidate for an IPO before the health crisis occurred (the project was halted before the IPO price was communicated). The company raised $390m in early May, in a fourth private placement with historical shareholders such as Illumina, and with the entry of new shareholders such as Public Sector Pension Investment and Canada Pension Plan Investment, bringing the amounts raised since its inception in 2016 to $1.9bn. Though the IPO was halted for reasons external to the company, the targeted valuation would most likely have been several billion dollars.

Peers in the field of cancer diagnostic tools

Company	Price (€)	Market Cap (M€)	Sales 2019 (M€)	EBIT 2019 (M€)
VolitionRX	3,1	143	0,0	-16,1
OPKO Health	2,3	1 520	801,9	-151,5
Precipio	1,0	11	3,3	-8,6
EXACT Sciences	77,1	11 539	956,0	-152,4
NantHealth	3,2	348	81,4	-20,0
Celcuity	7,2	74	0,0	-7,3
Natera	39,7	3 124	296,6	-118,9
Biocept	0,6	79	5,4	-21,0
Guardant Health	72,1	7 094	220,7	-75,5
Adaptive Biotechnologies	38,8	4 929	84,0	-83,7

**Share price as of 17 June 2020* *Source: Factset*

Based on the first results obtained in the advanced stages of fibrosis based on CT images (June 17 press release), we believe the group is well on its way to developing a new diagnostic tool for HCC disease, which should provide the probability of tumor recurrence in patients, and thus guide practitioners in the treatment to be applied, whether surgical or not, followed by treatment or not. We thus integrate into our valuation approach an estimate of the value that such a diagnostic tool could represent in HCC.

Every year, more than 500,000 people worldwide are diagnosed with HCC, and for whom it is difficult to predict the outcome. Considering an average liver biopsy cost of $2,000 to $7,000, we conservatively estimate the cost of the request to the platform at $1,500, and a market share of 10% of these new cases at 3 years. Annual sales could reach more than $75 million for this indication alone, or €66 million, with potentially very high margins. Indeed, once the biomarker is revealed, the software tools developed can be deployed on a large scale and at a lower cost via the Cloud (costs limited to IT expenses such as servers, data hosting, etc.). On the basis of these assumptions, the CHC diagnostic tool could be valued at €42 million (10% market share at 3 years with a discount rate of 12.5%).

Once the effectiveness of the non-invasive test developed by the group is proven (in particular the prediction of recurrences and increased survival rates), the tool could become a mass diagnosis (not integrated at this stage in our modeling), via the screening of at-risk populations (probably lower cost but potentially very high and growing volumes, as the prevalence of HCC is increasing worldwide). The earlier fibrosis is detected, the higher the survival rate.

C. Valuation Summary and Market Opinion

The sum of the valuation obtained for each division gives an overall enterprise value of €170m for the group, giving an equity valuation of €177m, or €14.6 per share based on the current number of shares.

Taking into account prices from future periods, we have included in our valuation approach only the creation of 385,016 shares through the exercise of stock options at €1.5. Excluding the diagnostics business' potential, on a diluted basis, our valuation is €14.2 per share, thus our initiation target price, and offers significant potential compared to a price of €4,99 (x2,8).

Summary of the valuation approach

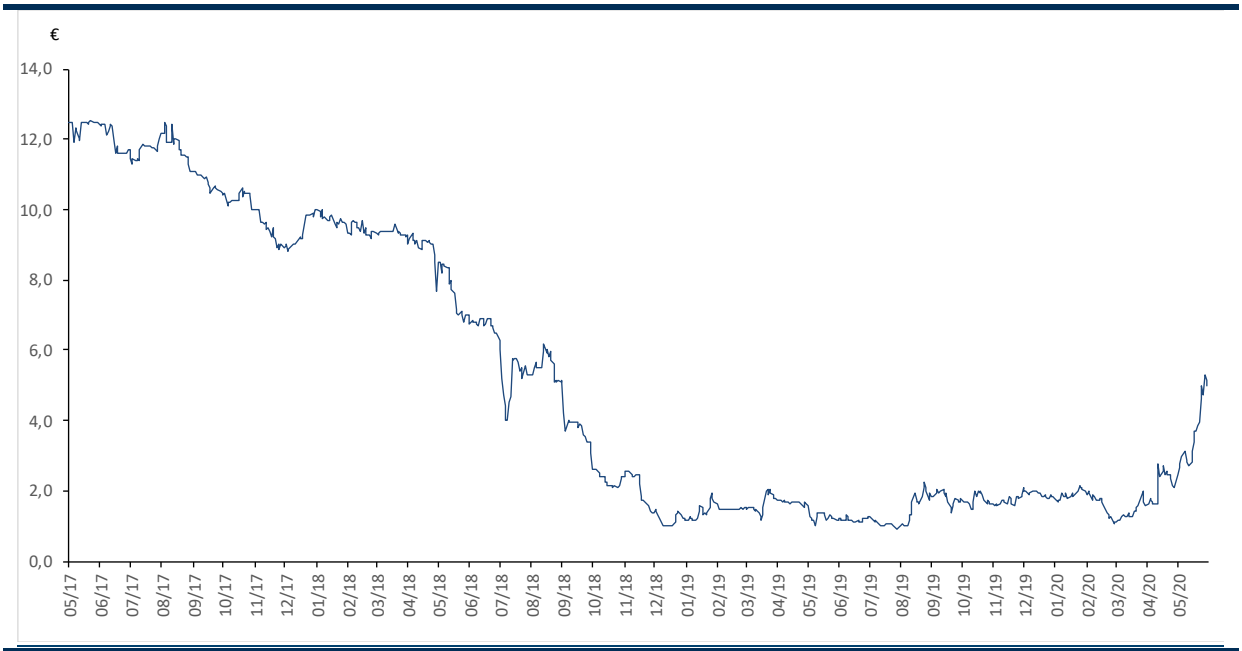
M€	
iCRO	107,6
Research iBiopsy® et Pheno ID	20,7
iBiopsy® diagnostic	42,1
Total EV	**170,4**
(-) Net debt	-6,5
(-) Provisions	0,4
Equity valuation	**176,5**
Nb of shares (millions)	12,1
Share price value (€)	**14,6**
Capital raised	0,6
Nb of shares diluted (millions)	12,5
Share price value diluted (€)	**14,2**

**Only HCC test* *Source: Midcap Partners*

Although the share price has quintupled since the year's low point, we believe that our valuation does not yet reflect the latest published news: sustained Q1 growth (revenue and order book despite the Covid-19 effect), partnership with AP-HP, the release of EIB financing, promising results in advanced fibrosis, and even less so, the platforms' potential (first results more than promising for iBiopsy®). We therefore believe that the share price should continue to rebound in parallel to the newsflow, which should remain buoyant: new research partnerships, results of the iBiopsy® cluster's research programs, confirmation of the acceleration in the iSee® division, etc. We are thus initiating our coverage of the stock with a Buy rating.

VII. Market Data

Evolution of the share price (3 years)



STOCK MARKET DATA

Daily average volume (thousands shares)		Stock performance	
3 month	99 063	**12 month higher**	5,7
6 month	93 783	**12 month lower**	0,9
1 year	78 319	**Perf YTD**	156%
3 years	25 881		

VIII. Financial Data

Income Statement (€M)	2014	2015	2016	2017	2018	2019	2020e	2021e	2022e
Total sales	**1,5**	**3,9**	**6,4**	**7,7**	**6,3**	**9,0**	**13,4**	**20,2**	**29,3**
Growth	*28,1%*	*152,1%*	*63,5%*	*21,0%*	*-17,5%*	*41,2%*	*50,0%*	*50,2%*	*45,1%*
Gross margin	**1,5**	**3,8**	**6,2**	**7,5**	**6,2**	**8,8**	**13,2**	**19,9**	**28,9**
% of Sales	*96,6%*	*98,2%*	*98,3%*	*98,0%*	*97,9%*	*98,8%*	*98,5%*	*98,6%*	*98,7%*
External expenses	2,0	3,6	6,1	9,2	10,4	7,5	8,7	9,1	9,4
Payroll	3,9	5,7	8,7	14,9	10,4	8,6	11,6	16,9	23,1
Other current incomes and expenses	0,1	0,1	0,3	0,3	0,4	0,4	0,6	0,8	0,9
EBITDA	**-4,4**	**-5,6**	**-8,9**	**-16,8**	**-14,7**	**-7,4**	**-7,5**	**-6,5**	**-3,9**
% of Sales	*-285,5%*	*-144,1%*	*-139,6%*	*-218,1%*	*-231,5%*	*-83,1%*	*-55,7%*	*-32,4%*	*-13,3%*
Net amortization, depreciation and provisions	-0,1	-0,1	-0,4	-0,3	-0,7	-0,5	-0,5	-0,5	-0,5
Current operating profit	**-4,5**	**-5,7**	**-9,3**	**-17,1**	**-15,4**	**-8,0**	**-8,0**	**-7,1**	**-4,4**
% of Sales	*-291,4%*	*-146,3%*	*-145,7%*	*-222,2%*	*-242,8%*	*-89,0%*	*-59,6%*	*-35,1%*	*-15,1%*
Result from affiliated companies	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Non-recurring items	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Net financial income	0,0	0,2	0,1	-0,1	0,1	0,0	-0,5	-0,8	-1,3
Income Tax	0,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0
Corporation tax rate	*0%*	*0%*	*1%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
Net profit, group share	-4,5	-5,5	-9,1	-17,2	-15,3	-8,0	-8,5	-7,9	-5,7
Minority	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Current operating profit	**-4,5**	**-5,5**	**-9,1**	**-17,2**	**-15,3**	**-8,0**	**-8,5**	**-7,9**	**-5,7**

Balance Sheet (€M)	2014	2015	2016	2017	2018	2019	2020e	2021e	2022e
Tangible and intangible assets	0,1	0,5	0,6	0,7	0,6	1,5	1,5	1,5	1,4
Financial assets	0,1	0,2	0,3	0,4	0,3	0,3	0,3	0,3	0,3
Deferred taxes	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Current assets	1,8	2,6	3,9	4,7	4,5	6,6	7,4	9,4	12,0
Cash	15,7	30,3	41,8	28,3	12,7	7,6	16,1	10,7	18,5
Other assets	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Assets	**17,8**	**33,5**	**46,6**	**34,1**	**18,1**	**16,1**	**25,3**	**21,9**	**32,3**
Shareholders equity group	12,0	26,2	38,7	24,9	9,1	1,3	-7,2	-15,1	-20,8
Minorities	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Provisions for liabilities and charges	0,4	0,4	0,5	0,5	0,6	0,4	0,4	0,4	0,4
Financial debt	2,2	1,4	0,5	0,0	0,0	1,1	16,1	16,1	26,1
Current liabilities	3,2	5,5	6,9	8,7	8,5	13,4	16,1	20,5	26,7
Other liabilities	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Liabilities	**17,8**	**33,6**	**46,6**	**34,1**	**18,1**	**16,1**	**25,3**	**21,9**	**32,3**

Cash flow statement (€M)	2014	2015	2016	2017	2018	2019	2020e	2021e	2022e
Operating cash flow	-4,3	-5,4	-7,7	-14,7	-15,3	-7,4	-8,0	-7,3	-5,2
ΔWCR	0,8	1,7	0,1	0,9	-0,4	2,9	2,0	2,4	3,6
Cash flow generated by the activity	**-3,5**	**-3,8**	**-7,6**	**-13,8**	**-15,6**	**-4,5**	**-6,0**	**-5,0**	**-1,6**
Net capex	0,0	-0,3	-0,5	-0,4	-0,3	-0,2	-0,5	-0,5	-0,5
FCF	**-3,5**	**-4,1**	**-8,0**	**-14,2**	**-15,9**	**-4,6**	**-6,5**	**-5,5**	**-2,1**
Disposal of tangible and intangible fixed assets	0,1	0,0	0,0	0,0	0,3	0,1	0,0	0,0	0,0
Disbursement/Collection of loans, deposits and bonds	0,0	-0,1	0,0	-0,1	-0,2	0,0	0,0	0,0	0,0
Dividends received from affiliated companies	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Cash flow from investing oper.	**0,1**	**-0,1**	**0,0**	**-0,1**	**0,2**	**0,1**	**0,0**	**0,0**	**0,0**
Change in borrowings	-0,8	-0,7	-1,0	-0,5	0,0	-0,5	15,0	0,0	10,0
Dividends paid	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Other net cash flow from financing oper.	**-0,8**	**-0,7**	**-1,0**	**-0,5**	**0,0**	**-0,5**	**15,0**	**0,0**	**10,0**
Change in exchange rate	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Change in net cash over the year	**13,6**	**14,6**	**11,5**	**-13,5**	**-15,6**	**-5,1**	**8,5**	**-5,5**	**7,9**

Source: Company - Midcap Partners

Financial Data

	2014	2015	2016	2017	2018	2019	2020e	2021e	2022e
Sales growth	28%	152%	64%	21%	-18%	41%	50%	50%	45%
Gross margin	97%	98%	98%	98%	98%	99%	99%	99%	99%
EBITDA margin	-286%	-144%	-140%	-218%	-231%	-83%	-56%	-32%	-13%
EBIT margin	-291%	-146%	-146%	-222%	-243%	-89%	-60%	-35%	-15%
Net margin	-291%	-142%	-143%	-224%	-241%	-89%	-63%	-39%	-20%
EPS	-0,54	-0,55	-0,78	-1,44	-1,26	-0,66	-0,70	-0,65	-0,47
EPS restated	-0,54	-0,55	-0,78	-1,44	-1,26	-0,64	-0,68	-0,63	-0,46
Dividend per share	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Dividend Yield	Na	Na	Na	Na	Na	Na	Na	Na	Na
WC as % of sales	-90%	-74%	-48%	-52%	-63%	-75%	-65%	-55%	-50%
DIO	Na	Na	Na	Na	Na	Na	Na	Na	Na
DSO	266	107	86	86	118	161	127	121	116
DPO	Na	Na	Na	Na	Na	Na	Na	Na	Na
FCF	-3,51	-4,08	-8,05	-14,24	-15,90	-4,6	-6,5	-5,5	-2,1
FCF yield	-6%	-4,4%	-7,8%	-10,5%	-20,6%	-25,2%	-10,4%	-8,7%	-3,4%
Conversion rate (FCF/EBITDA)	80%	73%	91%	85%	108%	62%	87%	83%	55%
CAPEX/Sales	Na	Na	Na	Na	Na	Na	Na	Na	Na
ROE	-37%	-21%	-24%	-69%	-168%	-623%	118%	52%	27%
ROA									
ROCE	389%	258%	434%	594%	502%	164%	116%	76%	34%
Gearing	-113%	-110%	-107%	-113%	-140%	-509%	0%	-36%	-36%
Leverage	0,0x	0,0x	0,0x	1,7x	0,9x	0,9x	0,0x	-0,8x	-1,9x
EV/CA	39,9	20,8	12,0	13,4	9,0	1,0	4,3x	3,1x	2,3x
EV/EBITDA	-14,0	-14,4	-8,6	-6,1	-3,9	-1,1	-7,7x	-9,7x	-17,2x
EV/EBIT	-13,7	-14,2	-8,2	-6,0	-3,7	-1,1	-7,1x	-8,9x	-15,1x
PE (restated)	-15,2	-18,4	-12,2	-8,0	-5,1	-2,3	-7,4x	-7,9x	-10,9x

Disclaimer

This document may refer to valuation methods defined as follows:

1/DCF method: discounting future cash flows generated by the business's operations. Cash flows are determined using the analyst's financial forecasts and models. The discount rate used is the weighted average cost of capital, defined as the weighted average cost of the company's borrowings and the theoretical cost of its equity as estimated by the analyst.
2/ Comparables method: application of stock-market valuation multiples, or multiples observed for recent transactions. These multiples may be used as benchmarks and be applied to the company's financial aggregates to determine its valuation. The sample is constituted by the analyst according to the company's characteristics (size, growth, profitability, etc.). The analyst may also apply a premium/discount based on his perception of the company's characteristics.
3/ Asset-based method: estimation of the value of the equity on the basis of the revalued assets and corrected for the value of the liability.
4/ Discounted dividend method: discounted future value of estimated dividend flows. The discount rate applied is generally the cost of capital.
5/ Sum of the parts method: this method consists of estimating the different activities of a company, by using the most appropriate assessment method for each, then calculating the total.

Recommendation scale:

Buy: expected over-performance above 10% compared to the market within 6 to 12 months
Hold: expected to outperform or under-perform the market within a range of +10% and -10%, within 6 to 12 months
Sell: expected to under-perform the market by more than 10% within 6 to 12 months

Detection of conflicts of interest:

Company	Closing price (€)	Rating	Warning
MEDIAN TECHNOLOGIES	€4.99	BUY	D,F,G

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Rating	Companies covered	of which "Corporate" clients
Buy	62%	70%
Hold	31%	26%
Sell	4%	2%
Under Review	3%	2%

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