



COMPANY NOTE

Ikonisys (ALIKO-FR)

Ikoniscope20max and bladder cancer drive sales

KEY TAKEAWAY

Members of Ikonisys's long-established GEN1 installed base including >40 of the largest commercial and clinical pathology labs indicated an intention to upgrade to the superior performance Ikoniscope20 with the prospect of an increasing range of optimised reagents. With its higher capacity, the recently launched Ikoniscope20max meets the needs of these high volume customers and should catalyse adoption by this important and influential customer group. While launched somewhat later than anticipated, it should boost near term machine sales and provide the basis for substantial revenues from Ikonisys's optimised reagents from these high volume players. Ikonisys recently launched its first set of optimised reagents for bladder cancer ("BC") in the US. With BC requiring frequent monitoring, with optimised reagents the compact automated Ikoniscope20 will give urologists access not only to rapid convenient monitoring of their own patients, but also attractive reimbursement revenues. We are optimistic that entry into the substantial urology market and introduction of further optimised reagents will presage broader adoption of the Ikonisys platform in the anticipated \$1.8bn (2024E) FISH analysis market. A 30% penetration of higher volume pathology units could generate revenues >€100m p.a. from FISH alone. Although we have pulled back our 2023E revenue estimates due to the later than expected launch of Ikoniscope20max, we remain positive as to Ikonisys's long term potential. We reiterate both our OUTPERFORM recommendation with a €10 / share target price.

Ikoniscope20max to drive take up from GEN1 installed base - The new Ikoniscope20max with a 160-slide automated slide loader is designed for high-volume labs processing tens of thousands of FISH tests per year. The Ikoniscope20max serves as an upgrade for the >40 GEN1 Ikoniscope installed base at US commercial pathology labs with an appetite for an integrated load-and-walk solution.

Optimised bladder cancer offering opens door to \$1.8bn FISH opportunity - Bladder cancer is the third most common non-cutaneous cancer and requires intensive surveillance as 70% - 80% of tumours reoccur after initial treatment. Ikonisys's optimised bladder cancer reagent solution developed with Empire Genomics offers an accurate, non-invasive method of monitoring progression. The enhanced reagents increase diagnostic speed and specificity, with Comprehensive Urology adopting this solution. It should catalyse the Ikoniscope entry into the US FISH market and develop a further range of reagent packages tailored to labs.

Continuing to build European network - With the Ikoniscope20 installation at one of Italy's largest genetic testing companies TomaLab, this serves as a reference lab to progress European adoption. With anticipated rollout across Europe, Ikonisys has secured BioVendor Laboratory Medicine as a partner for distribution of Ikoniscope20 in Eastern Europe.

Recurrent revenues from installed base - Expanding installed base should generate recurrent revenues from maintenance, software, and increasingly well optimised reagents. Assuming 40% adoption by 1000 high volume cancer pathology labs, we estimate c.€38.2m revenues by 2026E and >€65m by 2030E based on FISH alone; further upside from CTC and other applications.

Growing market for FISH gold standard - While we expect growing use of liquid biopsies, combining molecular diagnostics with clinically critical cellular pathology, FISH remains the gold standard for diagnosis and cancer care. The FISH market is expected to approach \$1.8bn by 2024E.

Substantial opportunity in CTC liquid biopsy and beyond - With proven capability in blood rare cell detection and analysis, Ikoniscope20 is ideal for CTCs liquid biopsies, with no enrichment on standard blood smears. Adaptable to new imaging markers, it has broad application for patient immune cell analysis for targeted immunotherapy.

OUTPERFORM

Target Price €10.00

Current Price €1.52

FINANCIAL SUMMARY

Net Cash/Debt (M): 0.00

MARKET DATA

Current Price:	€1.52
Target Price:	€10.00
52 Week Range:	€3.10 - €1.35
Total Enterprise Value:	15
Market Cap (M):	14
Shares Out (M):	9.5
Float (M):	0.9
Average Daily Volume:	567

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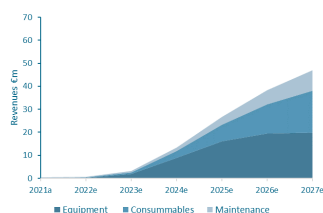
PRICE PERFORMANCE



Source: Factset

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FIGURE 1: Ikonisys sales forecast


Source: goetzpartners Research estimates.
 Warning Note: Forecasts are not a reliable indicator of future performance or results. The return may increase or decrease as a result of currency fluctuations.

Digital pathology for labs large and small

Precision medicine in oncology requires comprehensive, sensitive, and accurate characterisation of tumours to guide the increasingly complex choices of treatment. Efficiently combining molecular diagnostics with cytopathology, digital molecular pathology will become central to tumour management; particularly with the increasing use of AI and machine learning able to provide reproducible diagnosis from complex data sets.

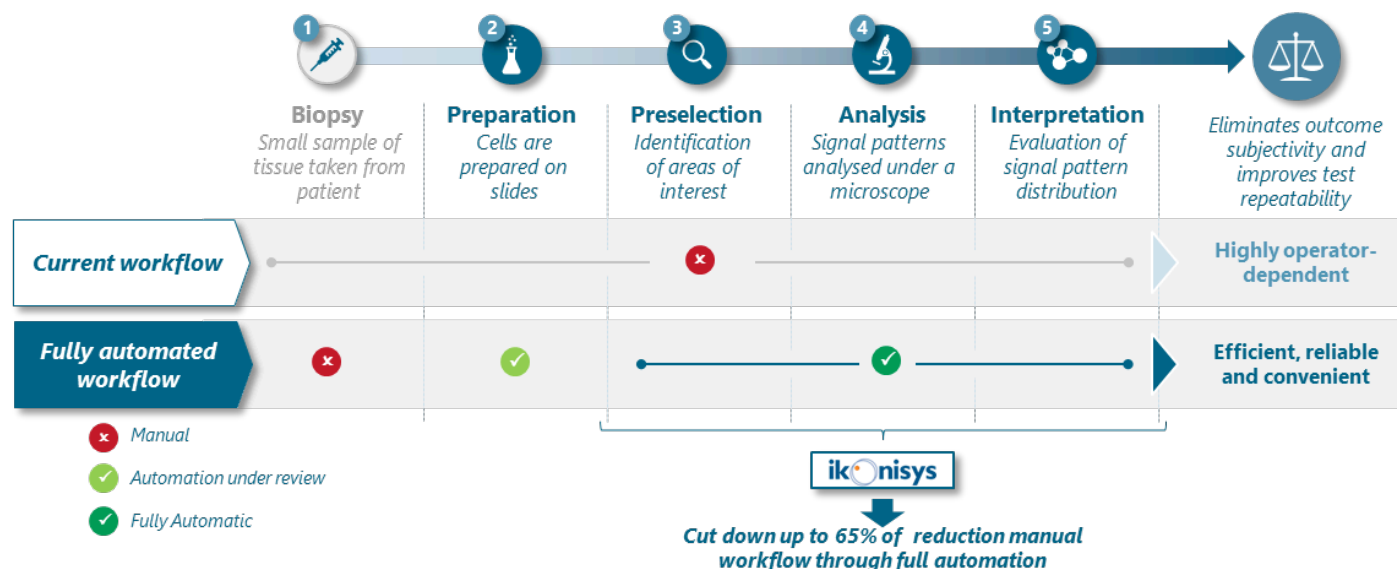
Founded in 1999 in New Haven USA, now headquartered in Paris with offices in Italy, Ikonisys is a commercial stage medical technology company focused providing fully automated solutions to meet the new challenges facing digital and molecular pathology. The Ikonisys Ikoniscope platform allows the rapid identification of individual tumour, immune and other rare cells in solid tissue as well as in liquid / blood biopsies. The platform facilitates diagnosis, prognosis, and treatment decision-making by streamlining already well-established diagnostic approaches, as well as opening the door to novel technologies. This includes circulating tumour cells (“CTCs”) as well as the cancer directed immune cells, enabling the analysis of both the patient’s tumour and crucially the specific immune response to it. Reducing the mounting pressure on increasingly stretched pathology departments in hospitals and private labs, the Ikoniscope robotic microscopy platform provides automated slide handling, slide scanning, image capture as well as analytics capabilities, increasing reliability with a 65% reduction in hands-on workflow (FIGURE 3: Streamlining cytopathology workflow).

FIGURE 2: Selected clients to date

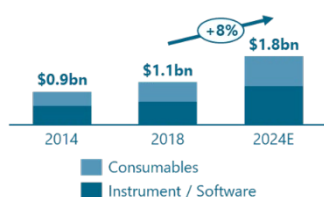

Source: Ikonisys

Having clinically and commercially validated the GEN1 Ikoniscope with major commercial and clinical pathology labs (FIGURE 2), Ikonisys is now rolling out a broader integrated commercial offering that delivers better performance in a compact fully automated format. This combines the second-generation benchtop Ikoniscope20 with optimised custom-made reagents to increase diagnostic speed and specificity. With optimised reagents developed with Empire Genomics, Ikonisys’s initial integrated focus on bladder cancer has already been acquired by Comprehensive Urology (“CU”). A long-time user of the GEN1, CU has upgraded to the Ikoniscope20 and adopted the Ikonisys reagents on the basis of improved performance and diagnostic accuracy. With the subsequent installation at a national urology group, the company hopes that this validation by CU will presage adoption of the Ikoniscope20 by US urology labs. In Europe, an Ikoniscope20 has already been installed at TomaLab, where it will act as a reference lab for potential customers. While the standard Ikoniscope20 is suitable for most smaller and mid-sized hospitals and pathology labs, the recently launched higher volume Ikoniscope20max is designed for larger high-volume players such as those in the GEN1 installed base looking to upgrade.

We remain optimistic that 2023E will see increasing adoption of Ikoniscope20, catalysed by a recently strengthened management team with a high level of expertise in commercial execution in the field of molecular diagnostics. Ikonisys recently recruited a Head of Sales for the US market, who has not only extensive experience in diagnostic marketing, but also was previously with Ikonisys and instrumental in the adoption of the GEN1 system by US market leaders. The resulting increase in installed base will pave the way for a recurring stream of revenue from kits, software, and maintenance (FIGURE 1).

FIGURE 3: Streamlining cytopathology workflow


Source: Ikonisys, goetzpartners Research

FIGURE 4: FISH market growth


Source: Frost & Sullivan

Investment Thesis

Digital pathology (“DP”) is central to the move to personalisation of cancer therapy; combining cytopathology with molecular disease markers to guide the increasingly complex choices of immunotherapies, other treatments, and combinations. Currently constrained by largely manual procedures, pathology is in urgent need of reliable rapid automated DP technology to avoid being overwhelmed with the expanding demand. By combining the Ikonoscope20 with specifically optimised reagents, Ikonisys can now offer a fully automated benchtop solution with superior performance for use in both large and small pathology laboratories.

Ikonisys had already established an installed base for its GEN1 system amongst large pathology laboratories and service providers particularly in the US. Many of these larger customers had expressed a desire to upgrade to the Ikonoscope20, but were awaiting the launch of the high-volume version of the machine. While somewhat later than anticipated, the recent launch of the high capacity Ikonoscope20max opens the door to Ikonisys20 sales to existing as well as new large high test volume customers. This pent-up demand should provide a boost to installations and sales in 2023E. Adoption of Ikonoscope20 by these large commercial players should provide a strong endorsement of the platform; providing an additional catalyst for broader adoption.

A compact low-labour solution suitable for smaller laboratories, the standard Ikonisys20 removes the need for processing in large reference laboratories, substantially reducing diagnostic turnaround time and importantly, provides hospitals and smaller clinical groups access to reimbursed revenues that would otherwise be collected by the larger laboratories; an important economic driver for Ikonoscope20 adoption. With the first integrated offering for bladder cancer now available and validated by first sale to a major urology group, we are optimistic for accelerated installations during the course of 2023E providing a strong foothold in the in the \$1.8bn (2024E) FISH analysis market (FIGURE 4), as well as addressing substantial opportunities for liquid biopsies of rare immune cells and CTC analysis as well as non-cancer applications such as infectious disease. Boosted by recurrent consumable revenues, our model suggests around €30m and perhaps close to €100m by 2025E and 2030E respectively. On this basis our DCF analysis indicates a current fair value of around €10 / share.

Ikonoscope20max opens door to conversion of GEN1 base

Ikonisys has established a substantial installed base for its GEN1 platform amongst large pathology laboratories and service providers (FIGURE 2). A number of these had already indicated an intention to upgrade to the higher performance Ikonoscope20, but were waiting for the introduction of higher capacity automated formatted. Equipped with a 160-slide automated slide loader the Ikonoscope20max fulfils the needs of these higher volume players; presaging sales to these large and influential players during 2023E

Bladder cancer platform to enter \$1.8bn US FISH market

With key sales personnel and finance now in place, the launch of Ikonisys’s first integrated reagent Ikonoscope20 offering for bladder cancer should catalyse entry into the US FISH market. The third most prevalent non-cutaneous cancer after prostate in men and breast in women, with overall directed US medical costs of >\$4bn bladder cancer is one of the most expensive cancers to manage due to its common recurrence thus the need for prolonged and frequent surveillance. There is a significant need for more accessible non-invasive monitoring, which could be met by the use of the Ikonoscope20.

Bladder cancer is diagnostic intensive

There are over 80,000 new cases of bladder cancer per year in the US. Many patients first present with haematuria. The gold standard for diagnosis is cystoscopy where a probe is passed up the ureter. However, cystoscopy tends to miss some types of the cancer. The risks and significant discomfort associated with cystoscopy also make it poorly suited for regular monitoring required of bladder cancer patients. Bladder cancer recurrence is common with 70% - 80% of tumours recurring after initial treatment. Monitoring recommended every 3 - 6 months; over 700,000 cystoscopies performed per year in US as a result. Accurate non-invasive means of monitoring in urine would be preferable over cystoscopy.

FISH analysis provides better detection of recurrent high grade disease

While urine cytology is used for monitoring, it is not very sensitive. FISH analysis is much more sensitive particularly for detecting recurrence in patients with high grade non-muscle invasive cancer. FISH analysis has sensitivity of 93% and accuracy of 94% compared to 78% and 83% respectively for standard combined cystoscopy and cytology.

Conventional FISH not well suited for application in smaller laboratories

While urine FISH analysis for bladder cancer has been widely available for over a dozen years through AbbVie's UroVysion FISH kit, FISH analysis is a labour intensive and often subjective when performed manually. It is consequently not suited for many smaller urology networks and labs. When used, the analysis is often performed in larger and / or commercial pathology laboratories using automated platforms; frequently the Ikoniscope GEN1. This outsourcing to third party providers increases the turn-round time and is often not favoured by pathologists who like to maintain oversight over the process.

Ikoniscope20 makes superior performance and accurate FISH analysis broadly available

The optimised FISH probes developed by Ikonisys with Empire Genomics was initially validated by the sale of the Ikoniscope20 reagent combination to Comprehensive Urology. Subsequent installation of the integrated platform at one the US's larger urology networks appears to confirm the platform's potential. The availability of the Ikoniscope20 may also open the door to the wider use of other laboratory developed tests ("LDT") that also deliver better overall accuracy compared to UroVysion in lower grade cancers (Tinawi-Aljundi, 2015).

Access to reimbursed revenue stream an economic driver of adoption

With bladder monitoring reimbursed, use of the Ikoniscope20 for in-house FISH could provide smaller labs and urology groups access to useful revenue. Reliable and fully automated the system should provide cost-effective means of performing the test and collecting the reimbursement.

Continued access to finance

Additional finance and leasing partner in place to support commercialisation

Ikonisys has succeeded in securing access to €5.1m in finance in the form of convertible bonds from Atlas Capital Markets. This appears to largely replace the €6m in a similar agreement with Negma Group; recently terminated. This should provide the company with sufficient funds for the next 12 months. An agreement with Evoscience Leasing should facilitate system sales by allowing potential customers in Europe and the US seeking to avoid the hurdle of large upfront capital costs.

Continuing to build European network

Eastern European distributor secured

The company secured a distribution partnership with BioVendor Laboratory Medicine for the distribution of the Ikoniscope20 system in Eastern Europe.

Leading gene testing company provides endorsement and key reference lab for platform

The sale and installation at one of Italy's largest genetic testing companies TomaLab is a clear endorsement of the platform as well as providing a key reference laboratory for new customers seeking to understand the benefits of the Ikoniscope20 platform. We believe that this will be a powerful catalyst for sales to new adopters as well as users of the first generation Ikoniscope platform who are keen to understand the additional benefits of the higher throughput fully automated and self-contained benchtop system.

Continued development in CTC detection and immunity

Data accumulates for Ikoniscope20 in cancer and immune cell liquid biopsy

Ikonisys is well-positioned to benefit from the fast expansion of the liquid biopsy industry. Avoiding the need for cell pre-enrichment, the Ikoniscope20 has the substantial advantage that it can be used on whole blood samples for liquid biopsies. Already in development for the detection and analysis of CTC, recent data on the detection of rare circulating immune cells suggests that Ikoniscope20 could provide real time analysis of the immune state of cancer patients which is central for disease management.

DCF analysis

We have valued Ikonisys by DCF based on the cash flows generated in our forecasts. The DCF is based on ten-year forecasts with cash flows discounted using a weighted average cost of capital ("WACC") and a terminal multiplier applied to the year following the 10-year explicit forecast period. The terminal multiplier is calculated using a WACC equal to the return on invested capital; thus, at a WACC of 11%, the terminal multiplier is 9.1x. Our DCF analysis is shown in TABLE 1.

TABLE 1: Ikonisys discounted cash flow analysis – Base case scenario

Dec YE	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Revenues	0.7	3.2	13.3	26.6	38.2	46.9	53.2	59.2	67.1	74.3	81.8
sales growth	47%	367%	316%	100%	44%	23%	14%	11%	13%	11%	10%
EBIT	(2.3)	(3.4)	1.1	5.4	9.7	13.6	17.0	19.9	27.9	32.9	37.5
EBIT margin	-338%	-107%	8%	21%	25%	29%	32%	34%	42%	44%	46%
Tax on EBIT	-	-	-	(1.1)	(2.0)	(2.8)	(3.5)	(4.1)	(5.7)	(6.7)	(7.7)
NOPLAT	(2.3)	(3.4)	1.1	4.3	7.7	10.8	15.3	15.8	22.2	26.1	29.8
Net investments	(0.4)	(0.3)	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.0)	(0.0)
Chg in W/C dec/(incr)	0.1	(0.3)	(1.5)	(2.2)	(2.0)	(1.5)	(1.0)	(0.9)	(1.2)	(1.3)	(1.3)
FCF	(2.6)	(4.0)	(0.6)	2.0	5.5	9.3	14.2	14.9	20.9	24.8	28.4

Discounted cash flow analysis

WACC	12%	Terminal value	63.7
Exit multiple	8.3x	Sum of PV of FCF	31.1
		Enterprise value (EV)	94.8
		Marketable Securities	5.1
		Net debt	-
		Equity value	99.9
		Number of Shares	13.0
		Value per share	7.7

Source: goetzpartners Research estimates.

Footnote: The valuation ranges are based upon long term analysis and not short-term assessment of likely performance. Warning Note: Forecasts are not a reliable indicator of future performance or results. The return may increase or decrease as a result of currency fluctuations.

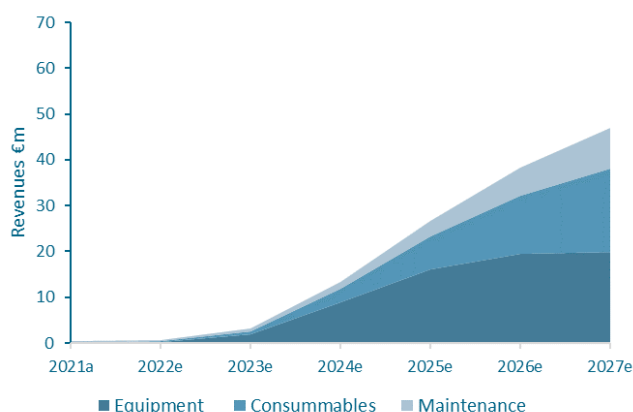
To consider the potential dilution resulting from the convertible, we have assumed that around 3.5m new shares are issued on top of the 9.5m currently in issue. This provides a valuation of €7.7 per share in our base case rising to €14 / share in our high case scenario, indicating a fair value of around €10 / share.

Financial Forecasts

Product revenues and assumptions

FIGURE 5 illustrates our base case revenue forecasts to 2027E, reflecting the long-term growth of the company as well as the evolution of its three core revenue drivers: 1) equipment sales, 2) consumable reagent kit sales, and 3) maintenance revenues (including software licenses). While we have slightly reduced our forecasts in 2023E to reflect the somewhat later than anticipated launch of the Ikoniscope20max, we still anticipate sales to accelerate from 2024E. We expect equipment to be the biggest sales contributor following initial launch of Ikoniscope20, followed by IkoniscopeAI in 2024E, respectively, but anticipate a progressive increase in recurring revenue from consumables, which we expect to surpass equipment sales as the leading source of revenue by 2027E.

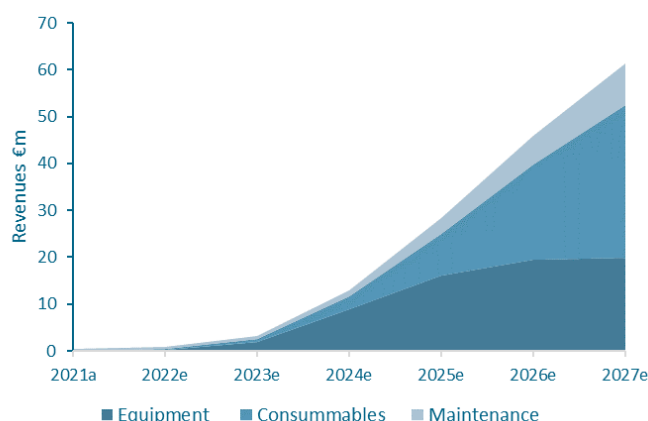
FIGURE 5: Ikonisys sales projections – Base case



Source: goetzpartners Research estimates.

Warning Note: Forecasts are not a reliable indicator of future performance or results. The return may increase or decrease as a result of currency fluctuations.

FIGURE 6: Ikonisys sales projections – High case



Source: goetzpartners Research estimates.

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Our key forecast assumptions are outlined below and in FIGURE 7:

- **Large target client base:** We estimate a total addressable market of 2,600 hospitals and private labs globally, segmented into three regions:
 - US: Addressable market of 1,000 hospitals and labs. Expect fast adoption and penetration of >40% by 2030E;
 - Europe: Addressable market 800, c.35% expected penetration by 2030E;
 - RoW: Addressable market of 800, c.32% penetration by 2030E.
- **Targeting larger hospitals initially:** We assume that the proportion of customers buying 2 or 3 systems is 15% initially, but gradually increases to 30% by 2026E.
- **A growing source of recurring revenue:** We expect maintenance services and software licences to represent a recurrent and growing source of revenue over time as the demand for services increases proportionate to the total installed base – offsetting potential equipment sales erosion by competitors. We assume maintenance contracts to amount to 20% of average machine selling price per year.
- **Consumable reagents sales:** High margin (70% - 80%) consumable sales are expected to replace equipment sales as a leading source of revenue over the long-term as Ikonisys will supply a growing body of customers with reagent kits.

FIGURE 7: Overview of key assumptions underlying product sales forecast

Product launch	Ikoniscope ASP	Consumables ASP	Test volume	Installed base	System life span	COGS
Initial system launch: ■ Ikoniscope20: 2020E ■ IkoniscopeAI: 2022E	Average system selling price ■ US: €120k ■ EU: €100k ■ RoW: €70k	Average kit selling price: €50.00	Avg. tests per machine per year: 2,000 initially, rising to 3,000 over three years	540 machines by YE2028E	6-year life cycle	■ Equipment: 65% ■ Kits: 20% ■ Maintenance: 10%

ASP: Average selling price

Source: goetzpartners Research estimates.

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Base case vs. high case scenario analysis

Our product sales forecast consists of two different commercial scenarios – a base case scenario (FIGURE 5) and a high case scenario (FIGURE 6). The primary difference in assumptions underlying the two scenarios is a variation in the estimated sales of consumables: while the base case assumes that only 35% of Ikoniscope users purchase their consumable kits from Ikonisys, the high case assumes that 50% of Ikonisys customers rely on Ikonisys to source their kits, which in our view is very achievable considering the increased convenience associated with purchasing all components from a single supplier. Even in the high case we assume Ikonisys kits would account for less than 20% of total kit sales within the company's target market.

Profit and loss

We would anticipate a small contribution from system sales in 2022E, but this should be expected to increase from 2023E onwards.

TABLE 2: Profit and Loss Forecast

Profit & Loss Statement	2021A	2022E	2023E	2024E	2025E	2026E
Dec YE (EURm)	31-Dec-21	31-Dec-22	31-Dec-23	31-Dec-24	01-Jan-25	02-Jan-25
Net revenues	0.5	0.7	3.2	13.3	26.6	38.2
Total cost of goods	(0.1)	(0.2)	(1.3)	(5.8)	(11.4)	(15.8)
Gross profit	0.4	0.5	1.9	7.4	15.2	22.4
Gross Margin %	85%	71%	60%	56%	57%	59%
Sales and Marketing	(0.0)	(1.0)	(3.2)	(4.2)	(7.1)	(9.4)
G&A	(0.6)	(0.9)	(1.1)	(1.1)	(1.2)	(1.5)
Research and development expense	(0.0)	(0.9)	(1.0)	(1.1)	(1.4)	(1.9)
Other operating income	-	0.0	0.0	0.0	0.0	0.0
Other operating expenses						
EBITDA	(0.3)	(2.2)	(3.2)	1.3	5.8	10.0
Depreciation	(0.1)	(0.1)	(0.2)	(0.3)	(0.3)	(0.4)
EBIT	(0.4)	(2.3)	(3.4)	1.1	5.4	9.7
Financial income						
Financial expenses						
Net financials	0.0	0.0	(0.0)	(0.0)	(0.0)	(0.0)
Finance income/costs fair value meas.						
Net financials	0.0	0.0	(0.0)	(0.0)	(0.0)	(0.0)
Profit before tax and exceptionals	(0.4)	(2.3)	(3.4)	1.1	5.4	9.7
Exceptionals/other non op.	(0.2)	-	-	-	-	-
Tax	-	-	-	(0.2)	(1.1)	(2.0)
Net profit	(0.6)	(2.3)	(3.4)	0.9	4.3	7.7
Avg # of shares (m)	9.5	11.0	13.0	13.0	13.0	13.0
EPS p	(0.06)	(0.21)	(0.26)	0.07	0.33	0.59

Source: Ikonisys, goetzpartners Research estimates.

Warning Note: Past performance and forecasts are not a reliable indicator of future results or performance. The return may increase or decrease as a result of currency fluctuations.

Balance Sheet and Cashflow

TABLE 3: Ikonisys balance sheet model

Balance Sheet	2021A	2022E	2023E	2024E	2025E	2026E
Dec YE (EURm)	31-Dec-21	31-Dec-22	31-Dec-23	31-Dec-24	31-Dec-25	31-Dec-26
Goodwill	16.1	16.1	16.1	16.1	16.1	16.1
Intangible assets	4.4	4.5	4.5	4.5	4.5	4.6
Tangible assets	0.0	0.4	0.7	0.9	1.1	1.2
Investments and other	-	0.0	0.0	0.0	0.0	0.0
Inventories	0.1	0.1	0.4	1.8	3.5	4.8
Accounts receivable	-	0.0	0.0	0.1	0.7	1.4
Other	0.2	0.2	0.2	0.2	0.3	0.3
Cash & securities	1.5	2.1	1.4	0.6	2.6	8.1
Total assets	22.5	23.4	23.4	24.3	28.7	36.5
Shareholders equity	20.0	17.7	14.3	15.1	19.5	27.1
Debt and other liabilities	1.0	4.2	7.5	7.5	7.5	7.5
Creditors	1.1	1.2	1.2	1.3	1.3	1.4
Other liabilities	0.3	0.3	0.3	0.4	0.4	0.4
Total Liabilities and Shareholders	22.5	23.4	23.4	24.3	28.7	36.5

Source: Company data, goetzpartners Research estimates.

Historical financials: Pro forma, converted from USD into EUR using YE exchange rate: 0.8913 (31 Dec 2019)

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TABLE 4: Ikonisys cash flow model

Cash Flow Statement	2021A	2022E	2023E	2024E	2025E	2026E
Dec YE (EURm)	31-Dec-21	31-Dec-22	31-Dec-23	31-Dec-24	01-Jan-25	31-Dec-26
Operating income	(0.4)	(2.3)	(3.4)	1.1	5.4	9.7
Depreciation	0.1	0.1	0.2	0.3	0.3	0.4
Tax paid	-	-	-	(0.2)	(1.1)	(2.0)
Amortization of stock options						
Change in working capital	(0.2)	0.1	(0.3)	(1.5)	(2.2)	(2.0)
Other items	(0.2)	0.0	0.0	0.0	0.0	0.0
Cash flow from operations	(0.78)	(2.1)	(3.5)	(0.3)	2.5	6.1
Capital expenditures	(0.6)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
Cash flow from investing	(0.6)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
Net interest	0.0	0.0	(0.0)	(0.0)	(0.0)	(0.0)
Net cash flow before financing	(1.4)	(2.6)	(4.0)	(0.8)	2.0	5.6
Share offerings	3.0	-	-	-	-	-
Increase/(decrease) in borrowings	-	3.2	3.3	-	-	-
Cash flow from financing	2.9	3.2	3.3	-	-	-
Change in liquid funds	1.5	0.6	(0.7)	(0.8)	2.0	5.6

Source: Company data, goetzpartners Research estimates.

Historical financials: Pro forma, converted from USD into EUR using YE exchange rate: 0.8913 (31 Dec 2019)

Warning Note: Past performance and forecasts are not a reliable indicator of future performance or results. The return may increase or decrease as a result of currency fluctuations.

The GPSL model assumes that Ikonisys will draw down all of the convertible debt, which will fully converted by 2024E.

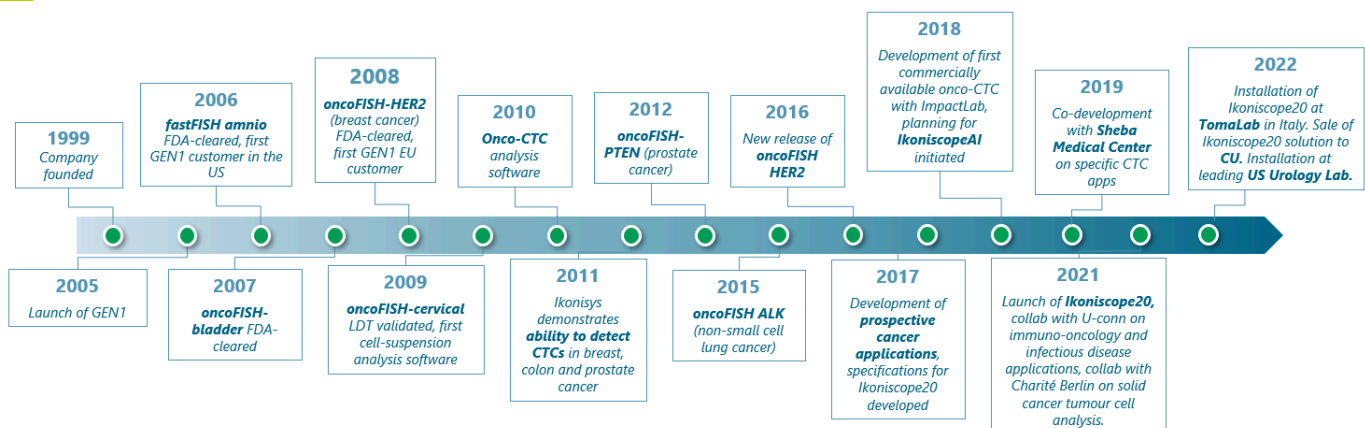
Ikonisys offers digital pathology solutions

Background

The Ikoniscope platform represents the core of Ikonisys' operations and offers fully automated detection and analysis of tissue samples

Ikonisys was founded in 1999 and is headquartered in New Haven, Connecticut. The company develops and markets fully automated diagnostic solutions for rare cell detection, analysis and interpretation in oncology and infectious disease. Their four current revenue streams are comprised of Ikoniscope fully automated digital microscope sales, reagent kits, software applications and maintenance services. The company is already generating revenues and the technology platform is validated by an existing installed base of 46 systems and a >10-year commercial track record (FIGURE 8).

FIGURE 8: Ikonisys timeline



Source: Ikonisys, goetzpartners Research

Fully automated benchtop solution

FIGURE 9: Ikoniscope20



Source: Ikonisys

With an established installed base, including some the largest commercial and academic pathology laboratories, the first generation Ikoniscope GEN1 offers fully automated slide handling, scanning and real-time image capture, with 175-slide capacity and the ability to analyse up to 2m cells on a single slide.

The Ikoniscope20 (FIGURE 9) provides a high-resolution imaging solution with fully integrated mechanical, optical, IT hardware, and software modules in a self-contained benchtop unit using components from leading players. The platform is capable of multiple applications, but most significantly in cancer the localisation and molecular analysis of tumour cells in tissue biopsy sections as well as circulating tumour cells in liquid biopsies. The key value proposition of the platform is that it offers fully automated slide handling, cell recognition, classification, data capture and data storage solutions combined with highly sophisticated image analysis capabilities. As a result, the Ikoniscope20 can be used to free up valuable resources and help alleviate the high pressure placed on pathology departments at present, while at the same time increasing the amount / quality of time spent on image interpretation by pathologists.

Moreover, the Ikoniscope20 also boasts LAN and WAN connectivity to further improve pathology department efficiency by 1) optimising use of available pathologist manpower (located anywhere with internet connection), 2) allowing another pathologist to offer a second opinion remotely, and 3) providing remote service and support.

We anticipate fast adoption of the Ikoniscope20 driven by a growing need for more efficient solutions that increase FISH throughput. Adoption will also be supported by existing commercial validation for the system from an established installed base of 46 the predecessor Ikonisys systems in major hospitals and private labs and a strong >10-year track-record together with great approval ratings de-risking the device. The system provides a clear benefit in the fact that it improves the precision of image acquisition and analysis and promotes overall workflow efficiency, throughput and cost effectiveness in hospitals and labs.

FISH automation – a more efficient and reliable alternative

The benefits of automated FISH probe analysis compared with manual procedures are well-documented in scientific literature. Comparative studies have shown equivalent levels of clinical accuracy in identifying and classifying genetic markers between the two methods (>95% concordance, C. Ohlschlegel *et al.*, 2013). Automatic analysis is considered to be at least as reliable as its manual alternative, removing the need for time-consuming case-by-case manual interpretation. The benefits of this are two-fold: 1) automatic procedures are not subject to human judgement – which is intrinsically subjective and potentially misleading – resulting in a fully objective and unbiased classification of cells; 2) the analytical power of automated platforms relies on pre-defined, predictable parameters and is therefore highly replicable – which could contribute to the standardisation of FISH overall, while reducing the need for highly-trained technicians and the impact of inherent variability.

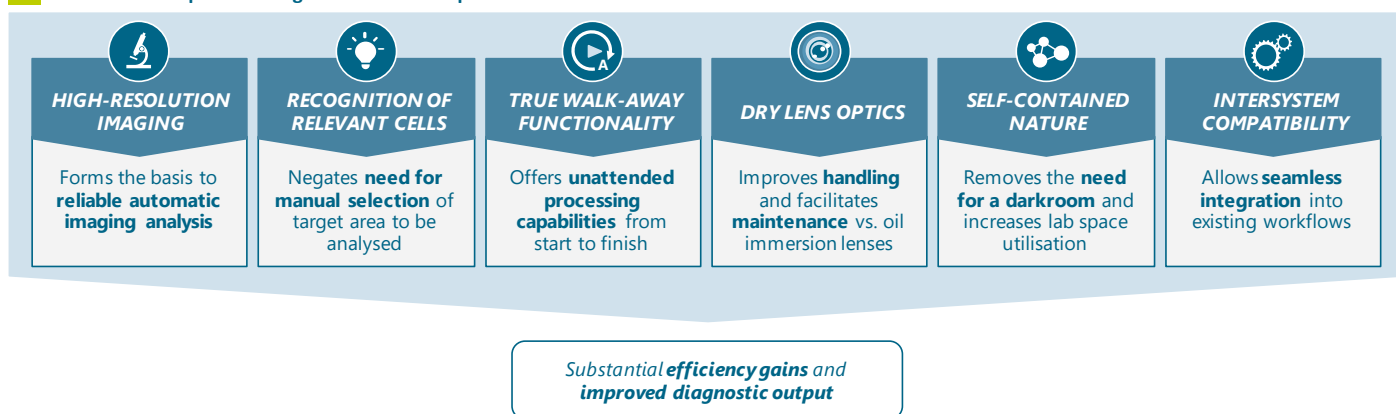
Ikoniscope system advantages

Ikonisys markets several different software packages for different cancer types with specifically tailored algorithms that recognise relevant features of the sample under investigation, requiring no additional input. The Ikoniscope is unique in the fact that it provides a fully integrated platform that can automatically recognise diagnostically relevant cells and establish parameters that optimise analytical outcome considering factors such as tissue type, cell morphology, chromosome shape, FISH probe type as well as fluorescent intensity. In addition, the Ikoniscope differentiates itself from other platforms in the fact that it is a self-contained unit that does not require a darkroom to work, allowing utilisation of valuable lab space otherwise dedicated to FISH imaging. High-resolution imaging using dry lens optics improves handling and forms the basis to generating clean data, while compatibility with existing technologies ensures seamless integration of the Ikoniscope into existing workflows (FIGURE 10).

A simple 4-step process:

1. Load slides into cassettes
2. Place cassettes into Ikoniscope
3. Initiate run
4. Review results and issue report

FIGURE 10: Unique advantages of the Ikoniscope

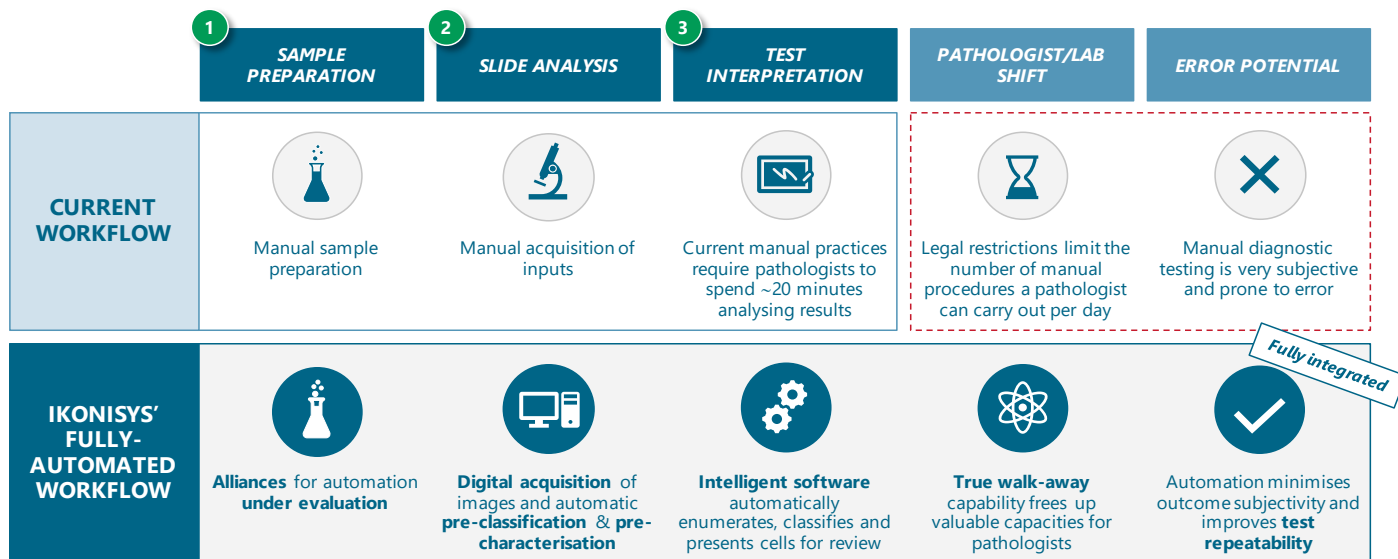


Source: goetzpartners Research

Automation and associated workflow optimisation increase quality and volume of diagnostic output

Ikoniscope optimises workflow inefficiencies that currently constrain the FISH market

The Ikoniscope high level of automation combined with a large loading capacity of 160 slides when paired with its optional slide loader (currently under development) for the Ikoniscope20 creates true walk-away functionality that offers unattended processing from start to finish. As a result, slide processing can be carried out overnight or on weekends, resulting in substantial efficiency gains as reflected in faster turnaround times, increased throughput, and improved cost-effectiveness. Increasing capacity without increasing staff is a key value proposition that directly addresses the growing problem of staffing shortages, while provision of a multipurpose platform reduces CAPEX needs and frees up valuable resources by offering significant time-savings for high-value operators. In terms of diagnostic value, system automation can reduce the risk of human error associated with fatigue, and contribute to standardisation of diagnostic results, higher consistency, and increased sensitivity (the higher the volume of cells reviewed, the higher the probability of identifying rare cells).

FIGURE 11: Efficiency gains from workflow automation and optimisation


Source: Ikonisys, goetzpartners Research

Ikoniscope20 new features:

1. Updated software
2. Increased speed and throughput
3. Smaller size
4. Configurable loading capacity
5. Improved remote access
6. Lower maintenance

Ikoniscope20: Further extending Ikonisys' technological lead

The introduction of next-generation Ikoniscope products will expand Ikonisys' arsenal with more evolved versions of the already highly sophisticated GEN1 platform. Ikoniscope20, the first installed in January 2022, incorporates all functionalities of the previous model, while adding an updated operating software as well as improved slide-handling capabilities through more sophisticated robotics systems that will further increase speeds and enhance throughput. The smaller size has obvious advantages related to easier shipping, handling, maintenance and set up, whilst the ability for customers to configure the loading capacity up to 160 slides provides the opportunity for customisation according to each lab's particular throughput. The remote access capabilities of the platform have also been improved, in addition to hardware updates that help to lower maintenance requirements.

Charité Collaboration

In November 2020, Ikonisys formed a collaboration with the Institute of Pathology (Molecular Diagnostics) at Charité, University Medicine Berlin, to evaluate the performance of the Ikoniscope20 platform in analysis of tumour cells in tissue samples of solid cancer, sarcoma and malignant lymphoma. The Ikoniscope20 will be used in a state-of-the-art routine diagnostic laboratory to analyse large numbers of cells for the quantification of clinically relevant cells from complex specimens, based on a combination of markers. Following the successful introduction of the Ikoniscope20, Charité aims to integrate the system into their daily routine testing of cancer tissue samples.

IkoniscopeAI: Harnessing the power of big data

Features for the third-generation product, IkoniscopeAI (launch planned for 2023E), are currently under evaluation, but the system is expected to further leverage Ikoniscope20's competitive edge. This includes the addition of powerful big data analytics tools, a self-learning AI algorithm for superior speed and accuracy in data interpretation, access to cloud computing for data management, and direct imaging technology for analysis of both dark field (FISH and immunofluorescence) and bright field (H&E, IHC) microscopy. The company has already entered into an agreement regarding the design and development of IkoniscopeAI's intelligent software with the Politecnico di Milano.

The IkoniscopeAI is in development and will harness big data and self-learning algorithms for superior data interpretation

Ikonisys will launch at least two applications per year to test additional cancer types

Outsourcing kit manufacture allows Ikonisys to scale up other applications and focus on development of the platform

Expansion into additional areas will be relatively simple, showing promise for long-term commercial prospects

Current Ikonisys software solutions

At present, Ikonisys offers a range of specific applications for bladder cancer, breast cancer (HER2 amplification), cervical cancer, lung cancer (ALK), prostate cancer (PTEN), Barrett's Oesophagus as well as haematological cancers. The company intends to develop and launch a minimum of two additional applications per year based on market demand for new types of tests. While FISH analysis of solid tumours represents a substantial commercial opportunity with a large unmet medical need, the Ikoniscope's ability to automatically detect, analyse and quantify rare fluorescently labelled cells within a sample allow its use to be extended to other applications such as the characterisation of CTCs as well as infectious pathogens using FISH or immunofluorescence.

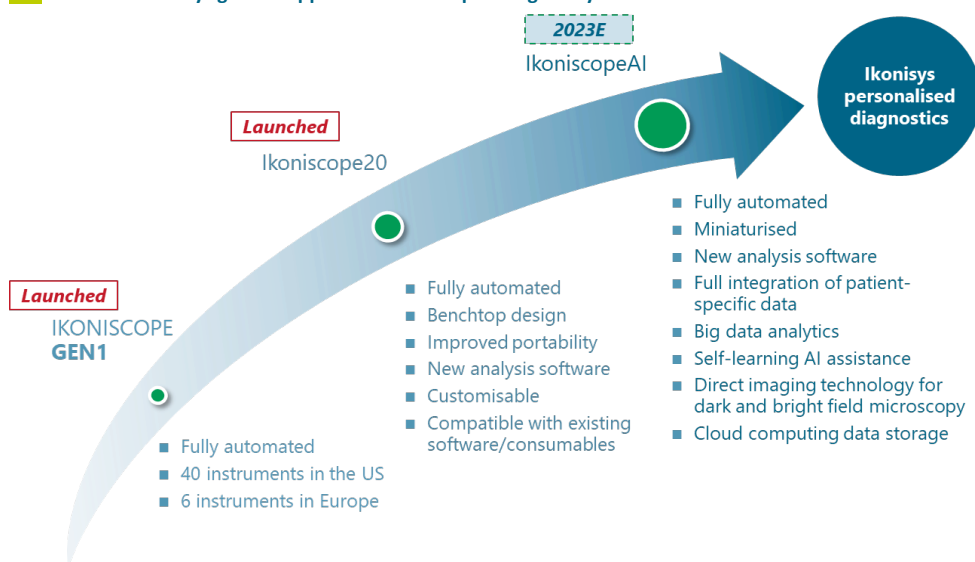
Outsourcing of FISH kit manufacturing offers commercial flexibility

While Ikoniscope hardware and software are proprietary and developed by Ikonisys directly, the company relies on the expertise of existing probe providers for the manufacturing and supply of FISH consumable kits, which allows consumables revenue to be generated with low CAPEX. While agreements with selected partners have yet to materialise, Ikonisys' previous commercial activities in the market facilitate access to companies offering contract development of FISH reagents as well as to existing probe manufacturers that are open for original equipment manufacturer ("OEM") collaborations. The company can therefore focus its attention on the production and development of the platform, allowing it to scale up its applications in other indications and testing methods while retaining the ability to provide a sufficient supply of high-quality consumables.

Large potential to expand beyond FISH and cancer

While FISH for cancer detection represents a key market entry point and large driver for Ikoniscope validation and penetration, use of the platform to improve detection of CTCs in liquid biopsy samples, as well as detection and characterisation of infectious diseases, which account for c.17m annual deaths worldwide, provide promising long-term commercial prospects. Expansion would merely be a matter of developing software solutions adapted to reflect changes in underlying test and tissue characteristics.

FIGURE 1: Ikonisys growth opportunities and upcoming catalysts



Source: Ikonisys, goetzpartners Research

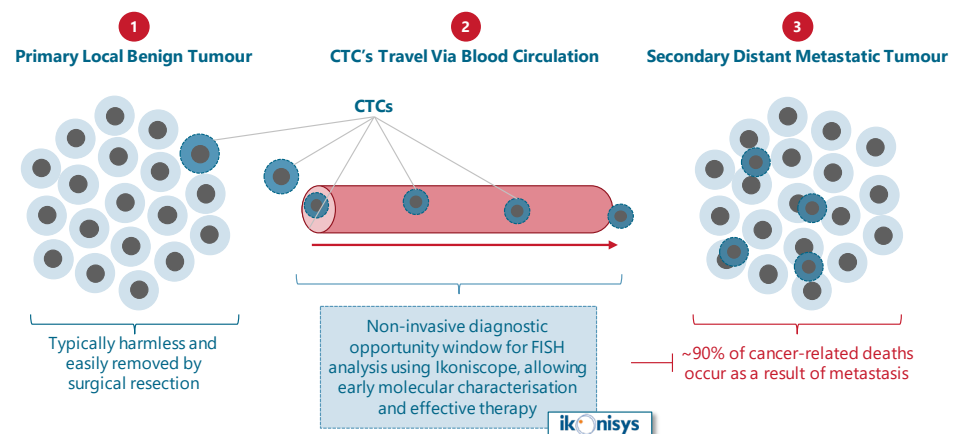
This would allow Ikonisys to offer its unique advantages to a much wider range of laboratories and markets, allowing smaller laboratories carrying out a variety of tests to also benefit from fully scalable workflow optimisation. The IPO of Guardant Health in late 2018, raising \$238m (valuing the company at \$1.6bn). Although currently under threat of reverse by the European Commission, the 2021 acquisition of GRAIL by Illumina for \$7.1bn following the \$1.6bn IPO of Guardant Health in 2018, highlights the hype around liquid biopsies for the early detection of cancer. While both Guardant Health's and GRAIL's lead assets focus on the detection of circulating tumour DNA ("ctDNA"), Ikonisys focuses on providing physicians with more comprehensive molecular intelligence by characterising whole CTCs, combining molecular diagnostics with cytopathology.

Liquid biopsies allow detection of CTCs through a simple blood test, although further analysis is required to guide treatment decisions

Characterising blood for the presence of solid tumours using CTCs

Usually, a solid biopsy is performed at the suspected source of the cancer, but this is invasive, expensive, and inconvenient. Liquid biopsies on the other hand provide a non-invasive and more cost-effective alternative to surgical biopsies, enabling physicians to detect cancer simply by testing a patient's blood for the presence of circulating tumour cells – cells that have detached themselves from the primary tumour and circulate in the bloodstream. CTCs are early precursors of distant metastases not found in healthy individuals, but only in patients with cancer, and CTC status is a reliable indicator for disease prognosis. The use of CTCs has a number of advantages over physical biopsies: in addition to being less invasive, it provides a systemic approach that enables physicians to distinguish between *in situ* tumours and invasive cancer and to identify the source as well as the type of the cancer without having to know its exact location to guide surgical biopsy. As such, it can be used early on in the diagnostic process, thus increasing the probability of beneficial therapeutic outcomes, given that sufficient pharmacological interventions are in place to exploit the actionable diagnostic intelligence afforded by FISH.

FIGURE 12: Non-invasive tumour characterisation using FISH-mediated CTC analysis



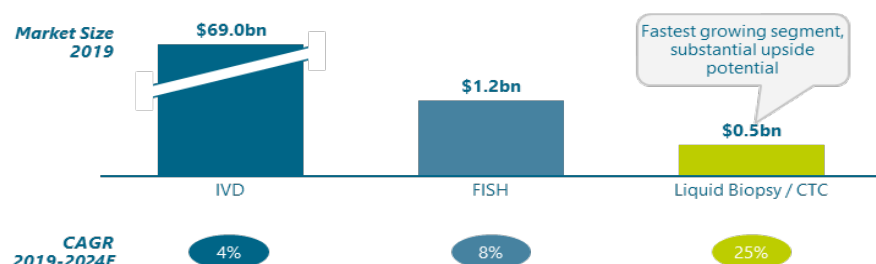
Source: goetzpartners Research

Utilisation of CTCs for diagnostic purposes requires cost-effective, easy-to-interpret and highly sensitive clinical tests such as the Ikoniscope

Ikonisys – unlocking the potential of CTC and immune cell analysis

The previously discussed advantages of FISH in terms of its ability to perform genetic interrogation at single-cell resolution while retaining cellular architecture and structural integrity also apply to the characterisation of CTCs, and other non-invasive techniques such as MRI and CT scanning or analysis of protein-specific markers simply do not provide the same degree of molecular insight. While CTC analysis has great potential to transform the diagnostic landscape in cancer, it has been limited by the extreme rarity of these cells, as a 10ml sample of blood typically contains less than 10 CTCs. Technologies that are more sensitive to picking up small signals, such as the Ikoniscope, are clearly at an advantage when it comes to increasing the probability of finding rare cells by being able to screen a much larger number of cells than possible manually. Furthermore, Ikonisys can be used with any desired enrichment approach, or even without enrichment, making it a leading technology that may play a principal role in unlocking the potential of CTC characterisation in optimising cancer care, paving the way for widespread implementation of scalable solutions for reliable early detection and monitoring. With anti-cancer immunity increasingly at the heart of oncology, the platform is also capable of detecting rare cancer-specific immune cells, which may be key to monitoring and directing individual patient cancer therapy.

FIGURE 13: Significant upside potential in Liquid biopsy / CTC market



Source: Ikonisys, goetzpartners Research estimates.

Warning Note: Past performance and forecasts are not a reliable indicator of future performance or results. The return may increase or decrease as a result of currency fluctuations.

FISH can be used in infectious disease to analyse drug resistance patterns and visualize mycobacteria

Collaboration agreement to develop the Ikoniscope for immunology applications, such as characterisation of tumour-associated immune cells

Well-established client base and high customer satisfaction paves the way for rapid uptake of the new system

Installed base of 46 systems and over 440,000 performed tests

Partnership with Sheba Medical Center-ARC

Ikonisys has recently teamed up with Israel's leading cancer research centre, the Sheba Medical Center-ARC, to identify novel biomarker sets that can be used on the Ikoniscope platform. The biomarkers will be matched against full sets of data and medical records collected from cancer patients with a view to the development of CTC-based diagnostic.

The platform was also endorsed by Sir William Bodmer Head of the Cancer and Immunogenetics Laboratory in the Weatherall Institute of Molecular Medicine at the University of Oxford.

"The Ikoniscope rare cell detection and analysis platform has great potential in the development of CTC-based clinical testing, an area of increasing relevance in oncology. It can be especially useful when coupled with DNA based tests for cancer early detection. The platform has the capability to analyse large numbers of cells, with no requirement for the expression of a particular cell marker by the CTCs of interest. This flexibility, coupled with the ability of the platform to analyse protein (antibody), DNA and RNA, will allow the development of a variety of CTC-based tests."

Infectious disease diagnostics market expected to exceed \$19bn by 2022E

The same concept applies to FISH-mediated identification of infectious disease, where rapid profiling of microbial pathogens is essential for efficient antibiotic selection, especially in light of increasing drug resistance patterns. FISH is easy, fast and offers the significant advantage of providing an image of the infectious organism being detected, thus allowing analysis of spatial architecture and morphology. On-going automation of systems such as the Ikoniscope accelerates the time-to-result and improves reliability. With respect to potential applications for infectious disease, visualisation of specific mycobacteria by FISH would greatly facilitate detection and identification of bacteria in both clinical as well as environmental samples, such as sputum or drinking water. A FISH based diagnostic approach offers the significant advantage over a PCR-based assay of providing an image of the infectious organism being detected.

Collaboration agreements with University of Connecticut and Imperial College

In July 2020, Ikonisys and the Neag Comprehensive Cancer Center at the University of Connecticut formed a collaboration agreement to further develop the Ikoniscope for use in CTC and immunology applications. More specifically, the Ikoniscope20 will be utilised in complex specimen samples to identify and quantify rare cell populations in I-O and infectious disease. For example, the identification and characterisation of tumour-associated immune cells should provide important information as to the susceptibility of individual tumours to different I-O strategies. This collaborative research agreement with a 'Commission on Cancer'-accredited centre not only further validates the Ikoniscope as a technology platform but will also allow Ikonisys to generate clinically relevant data to support their expansion into new fields. The collaboration has already established the ability of the Ikoniscope20 to detect very rare cancer antigen specific CD8 T-cells with superior efficacy compared to the significantly more expensive flow cytometry. CD8 T-cells are central to effective immune responses to both infectious pathogens and cancer cells. A more recent MoU was signed with Dr Ehsan Ghoran at Imperial College to look at combined morphological and molecular changes in cells in cancer as well as infectious, cardiovascular, and connective tissue diseases, which will be taken forward when the company has sufficient resources.

De-risked commercial strategy

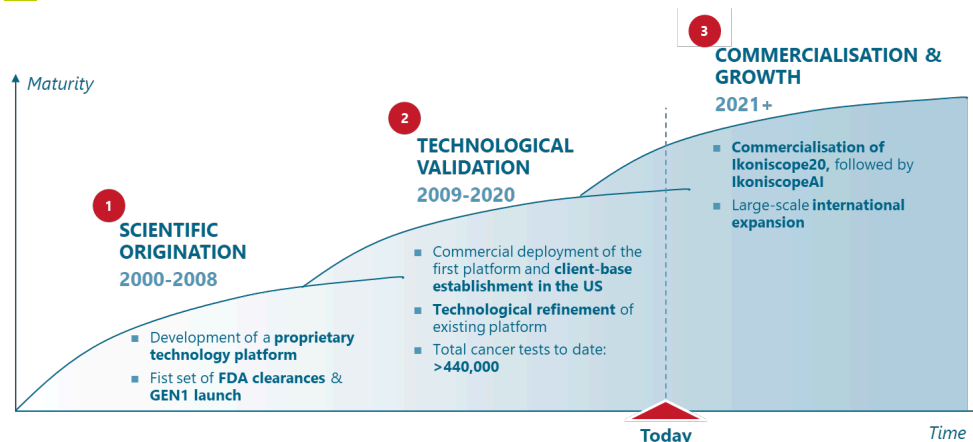
A large, well-established, and reputable client base combined with high customer-satisfaction rates and a focus on a clinically validated technology for cancer characterisation significantly de-risk commercialisation of the system. In addition, existing regulatory clearance and a strong patent portfolio will pave the way for rapid uptake and provide a barrier to sales erosion by the competition. Most competing systems are semi-automatic, making them obsolete in a context where the need for automatic, practical, and time-efficient procedures is paramount. The handful of systems that are in fact fully automatic do not possess the same data interpretation capabilities and still require a darkroom to function – two barriers that are exclusively overcome by the Ikoniscope.

Widespread FISH use provides fertile ground for Ikonisys

One of the opportunities in the FISH market is that it is a widely accepted and understood technology: FISH is clinically validated and has therefore gained significant traction both among hospitals and private labs. However, the established FISH industry is characterised by a client base that has settled for highly imperfect, time-inefficient systems, primarily for lack of a better alternative. The fact that the sub-optimal performance of existing diagnostic equipment acts as a structural market constraint also represents a significant window of opportunity for Ikonisys, paving the way for quick market penetration and fast adoption due to elimination of existing deficiencies. Furthermore, the platform has been tested and been continuously used by major hospitals and private laboratories in the US and Europe. With an

installed base of 46 systems and more than 440,000 cancer diagnosis tests performed to date, the Ikoniscope technology is clinically validated and reasonably well-established (FIGURE 14).

FIGURE 14: Ikonisys commercial timeline



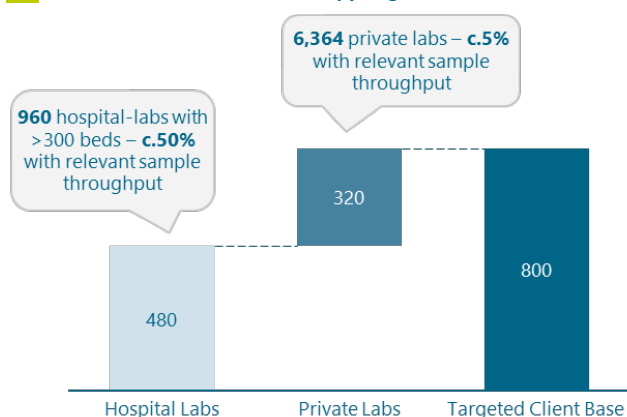
Source: Ikonisys, goetzpartners Research

Target market of 800 clients in the US and 650 clients in Europe

Target market: hospital labs and private labs

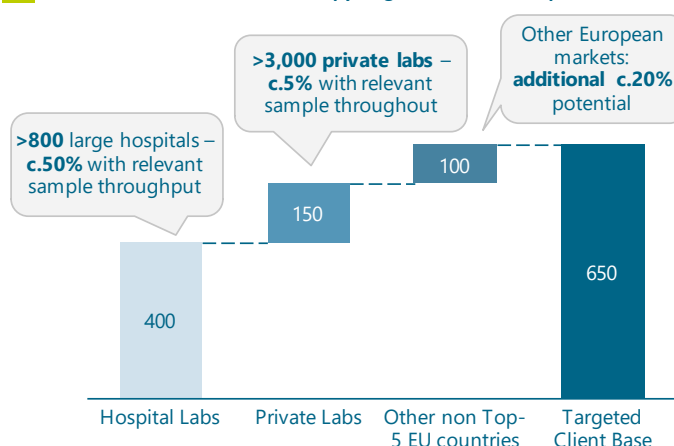
The main target clients are hospital labs and private labs performing at least 6 / 7 FISH analyses per day to justify automation. In the US, 50% of the 960 hospital labs with more than 300 beds could benefit from Ikoniscope utilisation, which constitutes a potential market of 480 clients. Furthermore, 5% of the 6,364 private labs that perform diagnostic services for general practitioners, hospitals and clinics in the US are equipped with manual FISH capabilities, representing an additional target market of 320 clients (FIGURE 15). The overall estimated client-base over the next 5 years in the US therefore amounts to 800 hospitals and private labs. The European region also represents a substantial target, with a total addressable market over the next 5 years of 650 hospital and private labs, of which 400 are hospitals labs, 150 private labs, and 100 additional hospital and private labs from non-top 5 EU countries (FIGURE 16). The proportion of private labs equipped with FISH facilities is generally lower compared with hospitals, as investment in the equipment is only justified when reaching a certain threshold testing volume. Nonetheless, several current clients already perform less than 6 / 7 tests per day. Additionally, Ikonisys will also target labs that would like to perform FISH testing, but do not at present because of lack of personnel / resources.

FIGURE 15: Fluorescent microscopy target market in the US



Source: Ikonisys, goetzpartners Research

FIGURE 16: Fluorescent microscopy target market in Europe



Source: Ikonisys, goetzpartners Research

Significant room for market penetration

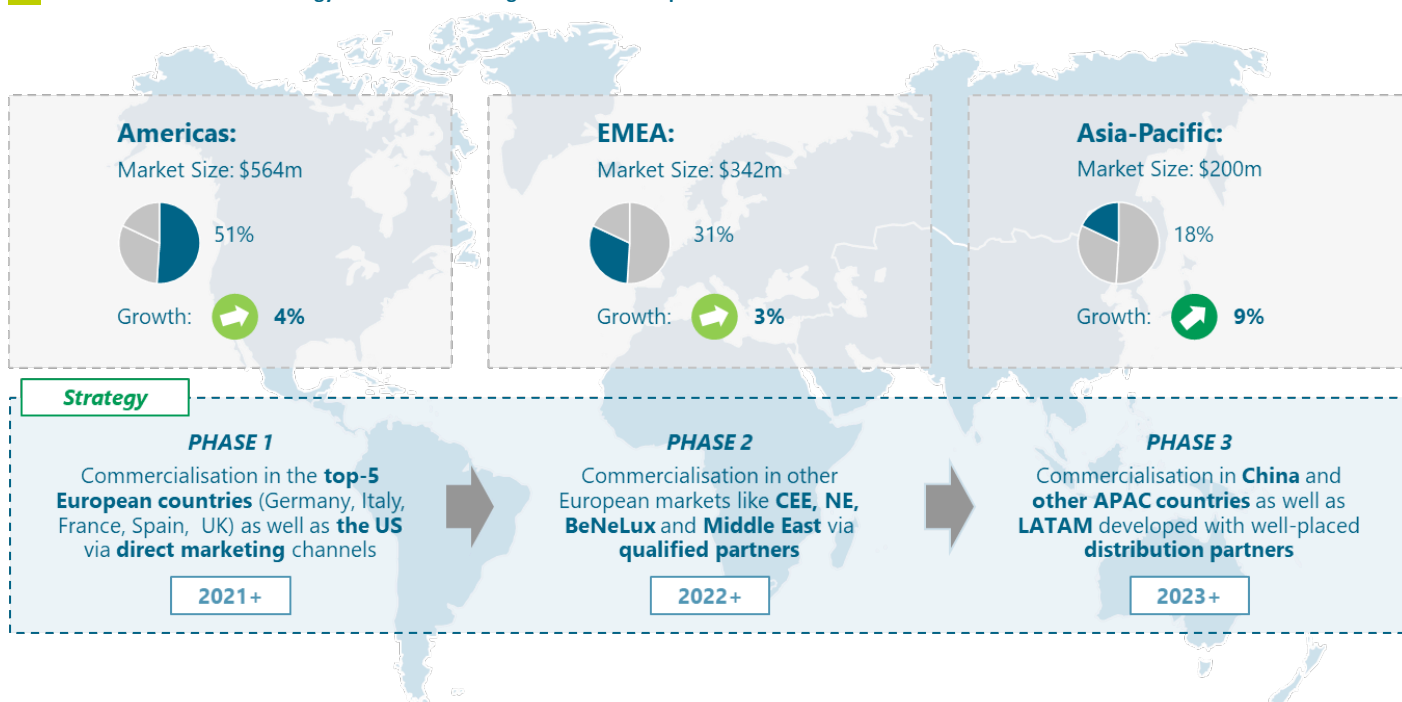
Target market penetration is likely to be significant, as the adoption of this technology would provide sizeable upside to hospitals and private labs regardless of their current capabilities. On the one hand, the prospective clients that are relying on alternative systems for FISH probe diagnostics – mostly in Europe and the US – still have an incentive to upgrade their clinical and technological capabilities and are therefore likely to contribute to equipment sales. On the other hand, those who are not yet equipped with functional diagnosis platforms, but who have both the capacity and willingness to improve their clinical facilities – mostly APAC – are likely to be the largest sales contributors in the near future. Clearly, expected demand for the platform strongly correlates with the degree to which it is perceived as a valuable and superior alternative to existing solutions. However, the fact that most of the existing Ikonisys users have completely removed manual procedures from their diagnostic process gives reasonable indication for the commercial potential of the platform.

Expanding Ikonisys' commercial infrastructure to penetrate underserved markets

In the US, an abundance of healthcare capital, an accommodating regulatory climate, and an increasing need for personalised medicine should drive Ikoniscope sales provided that Ikonisys generates enough traction to convince end-users to deviate from competing technologies, which are particularly abundant in this region. The LATAM region represents a major untapped market opportunity, characterised by a clear lack of relevant diagnostic technologies currently in place. Similarly, the CEE / MEA region represents a high potential market due to increasing investment in cutting-edge diagnostic technologies and a growing awareness of the benefits of early diagnosis. Significant sales can also be expected from the EMEA region, and particularly from the top-5 European countries. Finally, the APAC region is likely to be one of the biggest sales contributors due to a very large population and a high need for advanced diagnostic solutions. Ikonisys is currently expanding its commercial infrastructure to initiate large commercial expansion into existing and new market (FIGURE 17).

LATAM regions represents an untapped market opportunity, EMEA is seeing increasing investment into cutting-edge diagnostics and APAC has a high need for advanced diagnostic solutions

FIGURE 17: Commercial strategy via direct marketing and distribution partners



Source: Ikonisys, goetzpartners Research

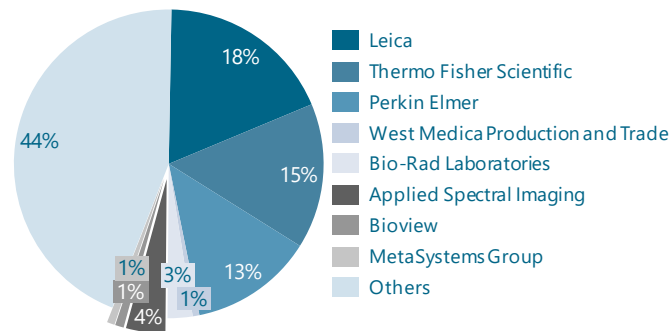
Competitive landscape: A strong value proposition in an undifferentiated industry

The main competitors of Ikonisys are Leica, Thermo Fisher Scientific, Perkin Elmer, West Medica Production and Trade, Bio-Rad Laboratories, Applied Spectral Imaging, Bioview, and MetaSystems Group (FIGURE 18). The industry is also filled with a myriad of small players who are, for the most part, overshadowed by bigger players due to their lack of distinctive product differentiation. The majority of competing systems are semi-automatic, which makes them obsolete in a context where the need for automatic, practical, and time-efficient procedures is paramount. Furthermore, the few existing systems that are in fact automatic (made by Metasystems, BioView, or ASI) do not possess advanced data interpretation functions and require a darkroom – two barriers that are exclusively overcome by Ikonisys' system and protected by extensive intellectual property. The technological exclusivity on value-

The Ikoniscope is unique with advanced data interpretation functions and no requirement of a darkroom. These capabilities are protected by extensive IP.

added functions increase the company's value proposition and the likelihood of strong market penetration.

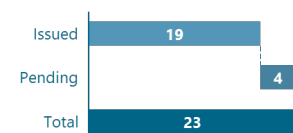
FIGURE 18: Competitive landscape



Source: Ikonisys, goetzpartners Research

Approval for GEN1 in US and Europe significantly de-risks development and approval of the new models

FIGURE 19: IP portfolio



Source: Ikonisys

GEN1 market authorisation to accelerate market entry of Ikoniscope20 and IkoniscopeAI

The Ikoniscope is a class II medical device and both FDA-cleared in the US and CE-marked in Europe, which significantly de-risks the device in a regulatory context and paves the way for rapid clearance of Ikoniscope20 and IkoniscopeAI: in order to obtain clearance, the company will only have to demonstrate substantial equivalence of the new models to the FDA-cleared GEN1 platform. The process consists of demonstrating a level of similarity between the new and the old product that is sufficiently high to be considered by regulatory authorities as having similar intended use, technological characteristics, and principal of operation. Technological differences are tolerated as long as they do not raise new issues of safety and effectiveness, leading us to believe that regulatory approval does not represent a barrier to successful commercial launch in the US and Europe.

Strong intellectual property portfolio

Ikonisys holds 23 (19 granted and 4 pending) utility patents covering different aspects of the concept of automated microscopy including “automated cancer diagnostic methods using FISH”, “automated cassette and slide handling system for an automated microscope” and the “detection of circulating tumour cells in peripheral blood with an automated scanning fluorescence microscope”. In addition, Ikonisys’ IP covers specific software applications focused on image processing and their specific use in cancer detection. Importantly, the body of issued patents at present exclusively covers applications in the US, while other patents are pending in Europe, China, Hong Kong, Japan, Korea, and India. While strong IP protection in the US reduces the risk of sales erosion by competition, patents in other areas of the globe are necessary to ensure Ikonisys can reach and maintain a leading position in this market.

Executive management and board members

Executive management

Mario Crovetto | CEO

Mario Crovetto became CEO of Ikonisys in 2018. He previously served as CFO of Eurand NV, a specialty pharmaceutical company which he successfully floated to NASDAQ in 2007. He also held multiple executive functions in the pharmaceutical and chemical sectors, including positions as CFO of the Recordati Group and Vice President at the Montedison Group. He currently serves as a director of OpGen Inc, after the merger between OpGen and Curetis NV, an international molecular diagnosis company based in Germany. Mr Crovetto holds an MSc in Business Economics from Harvard University.

Alessandro Mauri | CFO

Alessandro Mauri became CFO of Ikonisys in 2019. He has worked as a Portfolio Manager in Cambria, Ltd. a UK private equity firm. Before he had founded B10NIX, an innovative biotech start-up, for which he acted as CFO as well. Mr Mauri holds an M.Sc. in Global Finance from Fordham University (New York, USA), a Master in Corporate Finance from SDA Bocconi (Milano, Italy) and an M.Sc. in Engineering of Computing Systems (major in Robotics and AI) from Politecnico di Milano (Milano, Italy)

Juergen Schipper, MBA | CCO

Juergen Schipper joined Ikonisys as CCO in 2018. He has more than 20 years of experience in General Management, Business and Commercial Development. He is the Founder and Managing Director of Microbionix GmbH, a German company specialised in the development of Multiplex Assay Systems. He is also the Founder and CEO of Diagnostics & Life Science Consulting. Mr Schipper has occupied multiple interim management positions at companies such as Luminex Corporation and Omega Diagnostics GmbH and holds an MBA from Munich University of Applied Sciences.

Michael Kilpatrick, PhD | CSO

Michael Kilpatrick is CSO at Ikonisys and joined as one of the founders in 1999. He has been a prominent researcher in molecular genetics at University of Wisconsin-Madison, University of Alabama at Birmingham, the Imperial Cancer Research Fund laboratories in London, and University of Connecticut Health Center. He has more than 100 scientific publications in the fields of nucleic acid structure and function as well as human molecular genetics. His research has been funded by the Medical Research Council, the Wellcome Trust, NATO, the Arthritis and Rheumatism Council and the NIH. He holds a PhD in Chemistry from the University of Birmingham.

Bill Kochiss | CTO

Bill Kochiss joined Ikonisys as CTO in 2006. He has more than 25 years of experience in managing various manufacturing, purchasing, planning, and scheduling operations. He has occupied management positions in both multi-million-dollar publicly traded medical manufacturing corporations as well as biotech start-ups (Zetoz Inc, Bauer Inc, Diba Industries, Coopersurgical Inc). Mr Kochiss holds a BSc in Industrial Engineering and Plastics Engineering from University of Massachusetts.

Board of directors

Mario Mauri | Chairman of the Board

Mario Mauri is Chairman and CEO of Cambria Ltd, a private equity firm based in London. He has more than 25 years of experience in private equity and venture capital and is a Board Member of several public and private companies. He served as CFO of Mondedison Group, Chairman of the Financial Committee of Himont Inc, and Executive Director at A2A SpA and Edison SpA. Mr Mauri holds an MSc in Economics from Bocconi University of Milan.

Roberto Rettani, MBA | Deputy Chairman of the Board

Roberto Rettani serves as Chairman and Managing Director of Syneresis Srl, a consulting firm in the healthcare sector founded in 2010. He held various executive functions at major pharma and healthcare corporations, including positions as CEO of Bracco Imaging Group and Zambon Group. He has been an Adviser of CVC Capital Partners Limited since March 2014. Mr Rettani holds an MBA from SDA Bocconi and completed an MSc programme in Industrial Chemistry at Università degli Studi di Milano.

Vittorio Grazioli, MD | Scientific Committee Chair

Vittorio Grazioli serves as CEO of Impact Lab Srl and Chairman of Ikonisys. He has more than 30 years of experience in studying platform technologies, medical diagnostics and devices, quality assurance, and molecular biology. Previously, he served as Director of Clinical Lab at Centro Diagnostico Italiano and Istituto Clinico Humanitas. Dr Grazioli holds an MD in Medicine from Università degli Studi di Pavia.

Alberto Calvo, MBA | Independent Director

Alberto Calvo is a Partner at Value Partners Management Consulting. Over the last 20 years, he has gained extensive experience and international expertise in the consumer goods, energy, healthcare and utilities. Previously, he worked in the M&A division of UBS and was a Project Manager at CERN, Geneva. Mr Calvo holds an MBA from SDA Bocconi and completed an MSc in Nuclear Engineering at Politecnico of Turin.

Pramod Srivastava, PhD, MD | Independent Director

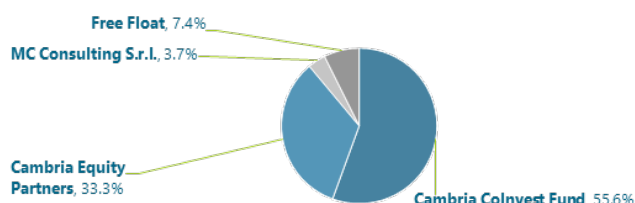
Pramod Srivastava is Professor of Immunology and Medicine and Director of the Carole and Ray Neag Comprehensive Cancer Center at the University of Connecticut School of Medicine. He is the co-founder of various biotech companies, including Antigenics and Life Science Pharmaceuticals. He is also the inventor of more than 200 awarded patents in the sector of immunology and a Member of the Scientific Advisory Council of the Cancer Research Institute. Dr Srivastava holds a PhD from the Centre for Cellular and Molecular Biology and an MD from University of Connecticut School of Medicine.

Scientific Advisory Board

A scientific advisory board has been established by Ikonisys, led by Pramod Srivastava, and includes Dr Ehsan Ghorani of Imperial College London and Dr Zihai Li, Professor and founding Director of the Pelotonia Institute for Immuno-Oncology of the Ohio State University Comprehensive Cancer Center. The individuals bring a wealth of experience in healthcare and expertise in the diagnostics field, more specifically in the areas in which Ikonisys sees its next stage of development and expansion, namely immunological applications.

Largest shareholders

FIGURE 20: Ikonisys shareholder structure



Source: Ikonisys

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COMPANY DESCRIPTION

Ikonisys S.A. is specialised in the design, manufacture and marketing of medical diagnostic equipment. The company offers cell diagnostic products in the fields of cancer diagnosis, detection of genetic disorders, and fertility testing.

SCENARIOS

Base Case - GP Investment Case

Ikonisys achieves successful roll out of Ikonoscope20 to fill need for effective flexible fully automated platform. Valuation of successful launch €9 - €16 / share.

Bluesky Scenario

N/A

Downside risk

N/A

SWOT

Strengths

- # Proven platform
- # Endorsed by leading players
- # Substantial unmet need
- # Growing market
- # Complementary to current diagnostic workflow
- # Flexible open platform
- # Multiple and recurring revenue streams
- # Multiple applications
- # Experienced management team

Risks

- # Commercial infrastructure to be further built
- # Ikonoscope20 yet to fully launch
- # Established competition

Important Disclosures: Non-Independent Research

Analyst Certification

I, Dr. Chris Redhead, hereby certify that the views regarding the companies and their securities expressed in this research report are accurate and are truly held. I have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this research report.

I, Alexandra Walsh, hereby certify that the views regarding the companies and their securities expressed in this research report are accurate and are truly held. I have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this research report.

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NEUTRAL - Describes stocks that we expect to provide a relative return (price appreciation plus yield) of plus 15% or minus 10% within a 12-month period.

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- (SHEBA MEDICAL CENTRE)
- (GRAIL)
- (ILLUMINA)
- (THERMO FISHER SCIENTIFIC)
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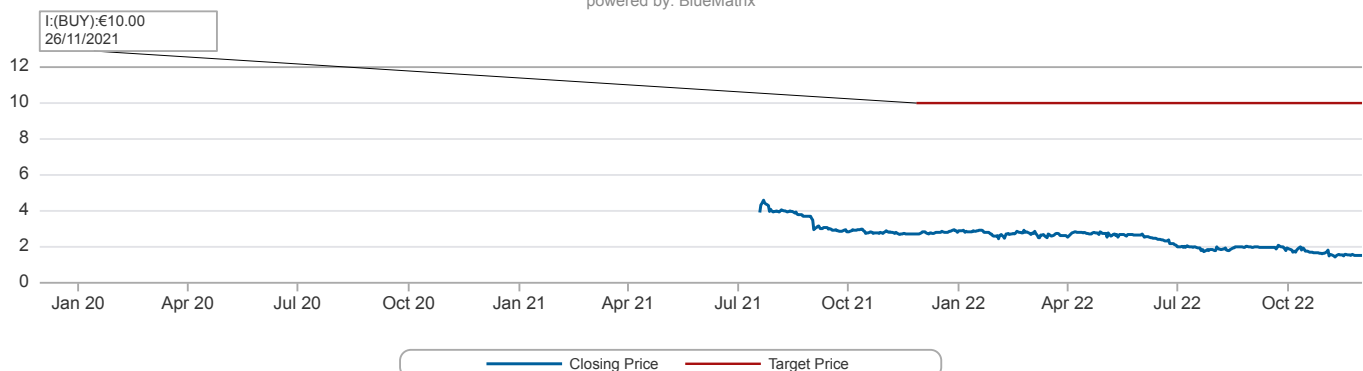
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€10.00 | Company Update
30 November 2022

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