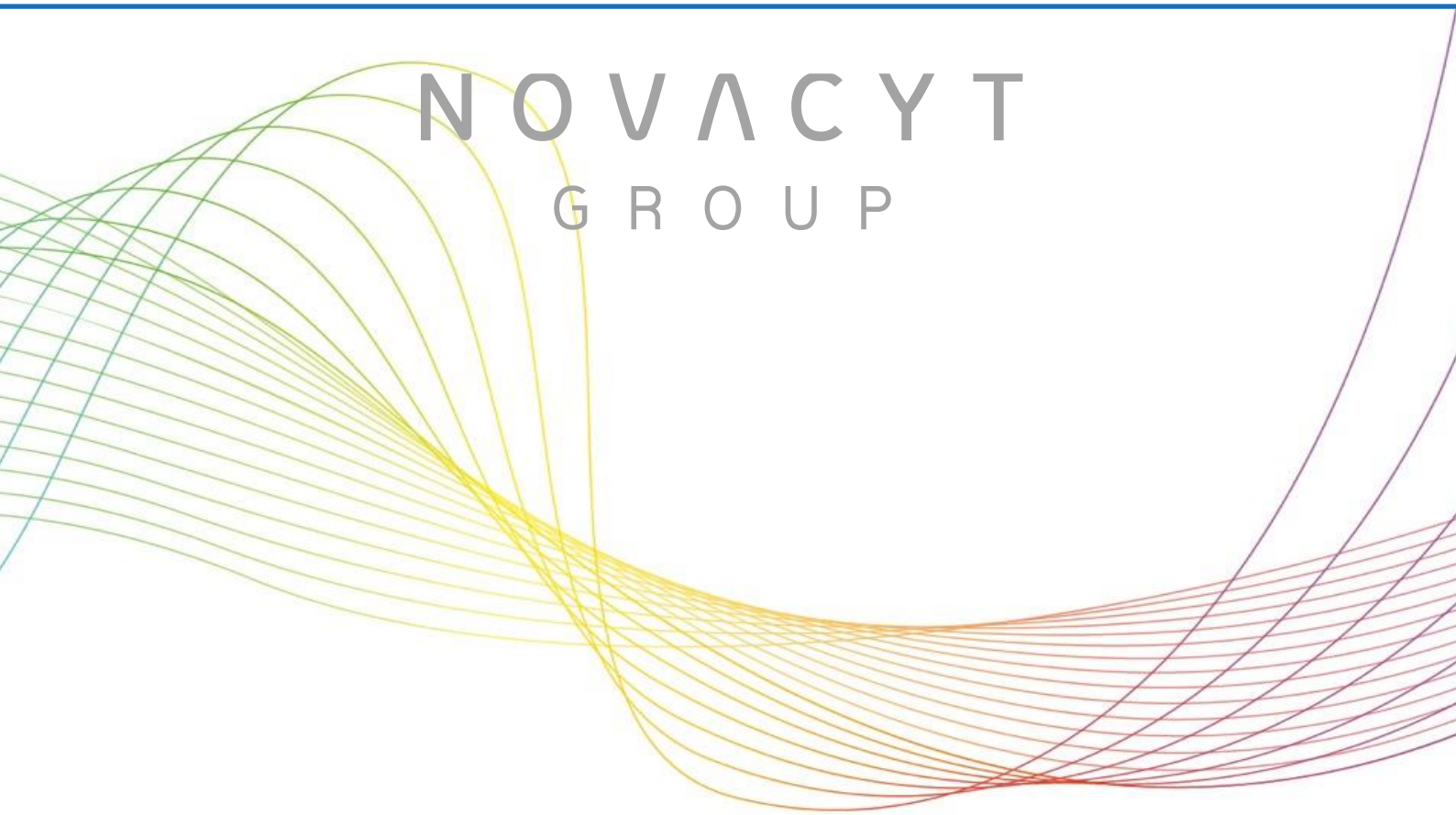
SP Angel Healthcare

Novacyt

Initiation of Coverage

21st October 2020



Source: Novacyt

SP ANGEL

Non-Independent Research
MiFID II Exempt

21 October 2020

***BUY–Target Price 1,463p**

Stock Data

Ticker	NCYT.L
Share Price:	955p
Market Cap:	£674m

Source: Bloomberg (prior day's close)

** SP Angel acts as Nomad and Broker to Novacyt and therefore this information should be viewed as a Marketing Communication.*

Company Description

Life science business focused on the development, manufacture and distribution of laboratory and diagnostic tests.

Share Price Chart (p)

Source: Bloomberg

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Initiation of Coverage

Novacyt S.A.*

COVID-19: A transformative period

Key points

- **COVID-19 tailwind:** Novacyt was one of the first businesses to develop a molecular diagnostic test for the detection of SARS-CoV-2 virus. Since its initial release in January 2020, the Group's test has generated significant revenue for Novacyt. For H120A Novacyt announced revenues of €72.4m, primarily from COVID-19 test sales, a 10x increase on H119A revenues (€7.2m). We expect H220E revenue to continue to be strong with our forecasts indicating FY20E sales of €287.8m.
- **Major contract from UK Department of Health and Social Care:** In September 2020, Novacyt announced a second contract with the UK DHSC for the supply of COVID-19 testing products for up to six months. The initial phase involves the immediate deployment of 300 PCR instruments, related kits and support services with a minimum value of £150m for the first 14 weeks. Based on this initial period, a further £100m of revenue could be expected for the subsequent 10 weeks. The second phase of the contract, which is optional by the DHSC, allows for the provision of up to 700 additional PCR instruments, related kits and support services. Should this contract be fully deployed, it would generate a further step change in revenue for Novacyt.
- **New products to drive incremental revenues:** The Group continues to expand its product offering for COVID-19 testing. New products include: exsig® direct, a sample preparation kit for PCR tests, a mobile near-patient testing (NPT) system and *Winterplex™*, a respiratory testing panel to help clinicians diagnose and distinguish between COVID-19 and other diseases with similar symptoms, such as influenza. These products should support end-users' testing capabilities and provide Novacyt with incremental revenues alongside its original clinical test kit.
- **Future focus on high-margin *in vitro* diagnostics (IVDs):** Novacyt is looking to drive further revenue growth and profitability via an increased focus on clinical IVD products rather than the traditional offering of research use only (RUO) and industrial tests. These IVD products should offer higher margins than RUOs and generate higher profitability for the Group in the long-term.

Outlook: Through the rapid commercialisation of a COVID-19 test, Novacyt has transformed its financial position. Demand for the Group's COVID-19 test and other COVID-19 reagents are expected to make up the majority of revenue generated until FY22E, whereupon the Group is looking to drive long-term growth across its business via the development of high-margin clinical diagnostics and establish itself as a leader in infectious disease testing. A significant cash position estimated to be €409.3m by the end of FY22E should provide Novacyt with a financial platform to create further value. We initiate coverage with a **BUY** rating and a **1,463p** price target.

Year-end Dec	2018A	2019A	2020E	2021E	2022E
Revenue (€m)	13.7	13.1	287.8	290.2	126.5
EBITDA (€m)	(0.4)	0.1	210.6	211.6	76.5
Pre-tax Profit (€m)	(2.1)	(3.9)	206.9	210.1	75.0
EPS (c)	(0.1)	(0.1)	255.3	258.8	91.3
Net Cash/(Debt) (€m)	(4.2)	(9.1)	79.5	316.2	409.3

Source: SP Angel forecasts

Investment Thesis

2019 saw Novacyt streamline its business to focus on its reagent development and manufacturing units. When combined with its strong R&D capabilities, Novacyt was well positioned to respond quickly to the COVID-19 pandemic via the release of the *genesig* PCR COVID-19 test, one of the first commercially available. The test is now being sold in over 130 countries and is expected to generate considerable revenues over the next two years. Once the pandemic subsides, we expect the Company to be in a strong financial position to deliver long-term revenue growth and profitability from its Primerdesign and Lab21 businesses through the sales of high margin *in vitro* diagnostic tests.

Surge in COVID-19 test sales

In January 2020, the Group developed and launched a COVID-19 test, initially as a Research Use Only (RUO) test, which became one of the first COVID-19 tests to receive CE-mark approval. PCR based testing remains a key focus of global public health strategies to manage the spread of the virus prior to the rollout of a vaccine. The Group's COVID-19 test has led to a surge in revenue for Novacyt and we expect high demand for the test to continue well into 2021.

Major contract with UK DHSC

In September 2020, Novacyt announced that it had signed a major new supply contract with the UK Department of Health and Social Care (DHSC). The agreement covers Novacyt's q16 & q32 Rapid-PCR instruments, exsig® COVID-19 Direct kits and *Winterplex™* kits. As part of the two-phase contract, Novacyt is to supply its products to the DHSC for up to six months. The first phase has an initial fixed term of 14 weeks with the potential to extend supply by a further 10 weeks. This first phase of the contract involves the deployment of 300 PCR instruments, related kits and support services. This is expected to generate a minimum of £150m in revenues for Novacyt during the first 14 weeks, with a further £100m of revenue expected for the subsequent 10 weeks. The second phase of the contract, which is optional by the DHSC, involves the provision of up to 700 additional PCR instruments, related kits and support services. Should the second phase of the contract be fully deployed, this would provide a significant increase in revenues over the next six months. This is a transformative contract for Novacyt, with the value of the initial phase of the contract expected to be minimum £250m.

Additional products to provide incremental tailwinds

Whilst the COVID-19 test is expected to generate the lion's share of revenues over the next two years, Novacyt has been working on the development of additional COVID-19 products. The Group has already developed and launched new products including: exsig® Direct, a direct-to-PCR RNA extraction kit, which is expected to increase throughput by up to 50%; the portable NPT system which enables frequent testing outside of central laboratories, such as care-homes and clinics; *Winterplex*™, a respiratory panel test for distinguishing multiple respiratory viruses, such as COVID-19 and seasonal flu; a lab-based antibody test for the detection of prior infection to COVID-19; and a two-gene target test to be sold into markets where two-gene targets are required. These products aim to support end-users' testing capabilities and provide Novacyt with incremental revenues alongside its original clinical test kit.

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Shift to CE-IVD sales to drive margins and long-term growth

In 2019, Novacyt restructured the business to focus on the manufacture and supply of molecular and protein diagnostic reagents which attract high margins and repeat income. For 2020, the global IVD market was valued at $69.5b and expected to grow at a CAGR of 5% over the next five years (BIS Research; Global In Vitro Diagnostic Market, July 2020). The Group is looking to improve margins further by driving the development and sale of CE-IVD clinical diagnostics through its Primerdesign business with the aim to be a market leader in respiratory and transplant clinical diagnostics.

Cash from COVID-19 sales supports further investment

Given the c.62% EBITDA margin demonstrated in the six months to end of June 2020, we expect a significant proportion of profits to be converted into cash. By the end of FY20E we expect cash balances to reach €79.5m. This cash generation should enable additional investment into new products, manufacturing, regulatory and sales capabilities. Moreover, the significant expected cash generation could put Novacyt into a position to make future acquisitions to add revenues and maintain profitability. The Group has prior experience in acquiring value-generating businesses. In 2016, Novacyt acquired Primerdesign, the subsidiary which went on to develop the COVID-19 test. The Group previously stated it is reviewing its capital allocation policy to enhance and accelerate long-term value creation through organic and acquisition growth.

Acquisition of IT-IS International strengthens core business

Shortly after Novacyt outlined its strategy to enhance and secure future value, the Group acquired IT-IS International Ltd (IT-IS) for an initial cash consideration of £10.1m. IT-IS is a profitable diagnostic instrument development and manufacturing company which is the exclusive manufacturer of the Group's q16/q32 PCR instruments. The COVID-19 pandemic is accelerating a shift to decentralised testing, as demonstrated by the major contract with the UK DHSC which focuses on the supply of Novacyt's test kits. This acquisition, which is expected to be immediately earnings accretive, strengthens Novacyt's position in the decentralised testing market and provides further control over the production of the q16/q32 PCR instruments.

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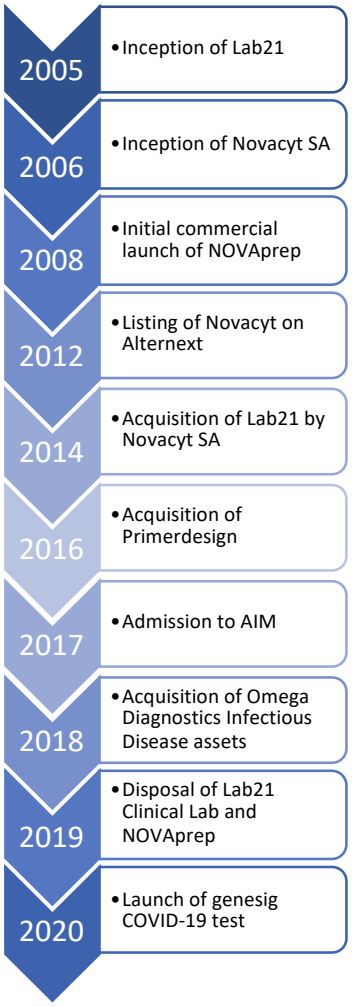
Novacyt timeline



Source: Company website

Company overview

Novacyt is a life science business focused on the development, manufacture and distribution of laboratory and diagnostic tests. The Company's lead business units comprise Primerdesign (molecular diagnostics) and Lab21 (protein diagnostics), which the Group operates out of two sites in Camberley and Southampton. The Company has an extensive product range, primarily focused on the areas of infectious disease, which it distributes both directly and through a large network of international distributors.

Company history

Novacyt SA was founded in 2006 and has grown organically and by acquisition to become a leading UK supplier of laboratory and diagnostic tests for both academic and clinical use.

In 2019, Novacyt restructured its business to focus more closely on the expansion of its profitable reagent development and manufacturing units, consisting of Primerdesign and Lab21 Products. This involved the disposal of non-core and loss-making businesses.

With the outbreak of COVID-19 in late 2019, the Group developed and commercialised a PCR based test for the detection of active COVID-19 infection. Sales of the test have resulted in a surge in revenues and cash generation, leading the Group to expand its presence in the global clinical testing market.

COVID-19 leads to surge in demand for testing

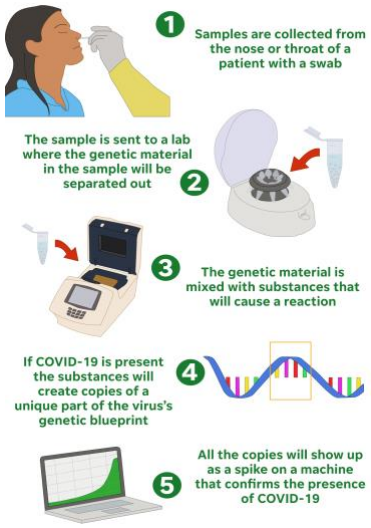
Coronavirus disease 2019 (COVID-19) is caused by SARS-CoV-2, a novel virus which is part of the coronavirus family. Although coronaviruses have historically led to mild symptoms, such as those associated with the common cold, since 2000 there have been a series of outbreaks which have resulted in life threating disease. For example, the Severe acute respiratory syndrome (SARS) outbreak in 2002 and the Middle East respiratory syndrome (MERS) in 2012 were both also caused by coronaviruses similar to SARS-CoV-2.

A key component to managing any infectious disease outbreak is the ability to test patients for presence of the pathogen. Since initial reports of the outbreak in late 2019, the SARS-CoV-2 genome was rapidly sequenced and made publicly available. This data enabled industry and medical institutes to begin to develop COVID-19 molecular diagnostic assays, to help detect the virus.

genesig Real-Time PCR COVID 19-CE Kit

Novacyt was one of the first businesses to develop a molecular diagnostic test for the detection of SARS-CoV-2 virus. The test, known as the *genesig Real-Time PCR COVID 19-CE Kit,* relies on a common laboratory technique known as reverse transcription polymerase chain reaction (RT-PCR). RT-PCR functions by amplifying a genetic sequence specific to SARS-CoV-2. If the sample has the genetic signature present, this process will yield a positive signal indicating the patient is infected with the virus. The advantage of RT-PCR based assays is that they utilise a well-known and simple molecular technique which is relatively fast, highly specific, and uses easily accessible samples. In terms of patient samples, SARS-CoV-2 RNA is generally detectable in the respiratory tract with samples taken via nasal and mouth swabs, sputum or saliva.

RT-PCR workflow



Source: Nicole Schaub

The *genesig COVID-19 test* consists of a Primer & Probe Mix, two sets of controls, DNase/RNase free water and Oasig Lyophilised qPCR Master Mix. The test can be used on multiple laboratory instrument platforms to provide results in under 90 minutes and can be shipped and stored at ambient temperatures, an important feature for customers in tropical climates. The assay has been evaluated in multiple independent clinical performance evaluation studies which confirmed the high level of specificity and sensitivity required for clinical testing.

The initial version of the test was for Research Use Only, meaning it could not be used for clinical diagnosis. In February 2020, Novacyt announced that the test had been CE Marked as an *In Vitro* Diagnostic (IVD) for the clinical detection of SARS-CoV-2 infection. This certification enabled the test to be marketed for clinical diagnosis in Europe. In March 2020, the test also received clearance for the US market when the US FDA issued an Emergency Use Authorisation (EUA) for the COVID-19 test.

Sales growth surge

Since its initial release in January 2020, the *genesig COVID-19* test has generated significant revenue for Novacyt. In its H120A results, Novacyt announced revenues of €72.4m, with Primerdesign, the developer of the Group's PCR COVID-19 test, accounting for €70.6m of total revenues. This was a 10x increase on H119 revenues (€7.2m). Of this revenue, 91% was recorded in Q2FY20, with June accounting for €25.4m, representing the sixth consecutive month of growth. The recent supply agreement with the UK DHSC adds further revenue potential, with a minimum value of £150m expected for the initial phase of the agreement alone. As a result, we expect H220E revenue to be greater than H120E with our forecasts indicating FY20E sales of €287.8m. RT-PCR based testing for COVID-19, such as via the *genesig COVID-19* test and *Winterplex™* respiratory panel, remains a key focus of global public health strategies to manage the spread of the virus prior to the widespread availability of an effective vaccine. As such, we expect high demand for Novacyt's COVID-19 products to continue well into 2021.

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Novacyt COVID-19 test milestones

Date	Action
31 January 2020	RUO test developed
18 February 2020	CE-IVD test launched
16 March 2020	Public Health England Initial orders
23 March 2020	FDA EUA
25 March 2020	Distribution agreement with Bruker
06 April 2020	Approval by the Institut Pasteur for French distribution
08 April 2020	WHO Emergency Use Listing
08 April 2020	Partnership with AZ, GSK and University of Cambridge
27 April 2020	Supply contract with the UK Department of Health and Social Care (DHSC)
18 June 2020	Launch of exsig® Direct/ exsig® Mag RNA extraction kits and COVID-HT test
22 July 2020	Initiation of 2,000 patient care home trial using NPT system
27 July 2020	Launch of NPT system and new saliva sampling type
27 August 2020	Launch of respiratory test panel (*Winterplex™*)
4 September 2020	Launch of a two-gene target test for COVID-19
29 September 2020	Second supply agreement with UK DHSC
29 September 2020	Launch of serology (antibody) test to detect past infection of COVID-19

Source: Company announcements

Rapid international deployment

Novacyt moved quickly to support state testing programs around the world, obtaining regulatory clearance to sell its test in most major regions including Europe, the UK and the US. As of June 2nd, 2020, Novacyt was selling the *genesig COVID-19* test into over 130 countries. The Group previously stated its top two regions were the UK and Germany, two countries which have implemented large scale testing programs. Furthermore, the test is attracting significant interest in other regions which have seen large outbreaks including the Middle- East, India and the US. The test has also been listed as eligible for World Health Organization (WHO) procurement under the WHO Emergency Use Listing (EUL). The WHO EUL procedure evaluates therapies and diagnostics with the aim of accelerating availability to healthcare providers during a public health emergency.

In response to the growing interest in the Group's test, Novacyt moved quickly to strike agreements with global distributors to ensure rapid access to international markets. On March 25th, Novacyt struck a global distribution agreement with Bruker-Hain Diagnostics, the molecular diagnostics segment of Bruker Corporation (BRKR.NQ). Bruker is a leading medtech multinational company with strong reach into European clinical laboratories. The group has already initiated shipments of Novacyt's test into Spain, France, Germany and the UK. The test is also validated for Bruker's fully automated PCR platform.

Emergency Use Authorisation unlocks US market

On 23rd March, the *genesig COVID-19* test received Emergency Use Authorisation (EUA) from the US Food and Drug Administration (FDA). An EUA enables the clinical use of *in vitro* diagnostics for the detection of SARS-CoV-2 in the US, without going through the conventional regulatory route. With the FDA EUA in place, the COVID-19 test is now available for distribution into the US market. In July 2020, the Company signed a major distribution agreement for its COVID-19 test with a new global strategic partner to accelerate penetration of its COVID-19 test into the US. This follows an OEM agreement struck in February with a US healthcare group for the manufacture and sale of its RUO coronavirus test. With the US seeing a surge in cases there is considerable demand for RT-PCR tests such as Novacyt's, presenting a significant market opportunity for the Group.

UK Domestic sales represent a significant market opportunity

In response to the pandemic, Novacyt has been working with the Department of Health and Social Care (DHSC), NHS and Public Health England (PHE) to help meet their testing requirements. In March, PHE completed a formal evaluation of the Group's COVID-19 test and commenced orders of the test with an initial purchase order of c.£1m for eight hospitals for four weeks of planned testing. In April 2020, Novacyt struck a six-month supply contract agreement with the UK DHSC where the Group initially committed to supply 288,000 tests per week to the NHS. With the government looking to ramp up testing as the winter season approaches, we expect the UK to continue to be a significant market for Novacyt going forward, as demonstrated by the recently signed supply agreement.

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Second supply agreement with UK DHSC expected to generate substantial revenues

In September 2020, Novacyt signed a new supply contract with the UK DHSC. Under the agreement, Primerdesign is to supply COVID-19 related products to the UK DHSC for up to six months to support testing capabilities across the NHS. Products include the q16 and q32 PCR instrument platforms, exsig® Direct kits, and the *Winterplex™* respiratory panel. The agreement is split into two phases:

1. **Phase 1:** An initial term of 14 weeks with potential to extend supply for an additional 10 weeks. The phase involves the immediate deployment of 300 PCR instruments and related kits as well as support services.
2. **Phase 2 (optional):** The UK DHSC has the option to receive up to 700 additional PCR instruments and related kits as well as support services and additional COVID-19 products from Novacyt.

This is a substantial contract for Novacyt and provides a significant opportunity for revenue generation over the next six months. The initial 14-week term of Phase 1 has a minimum value of £150m, whilst a further £100m of revenue could be expected for the subsequent 10-week term. This is dependent on volumes requested by the DHSC. Should the second phase of the contract be fully deployed, we expected it to generate considerably more revenue than Phase 1. As the second agreement with the UK DHSC, this contract supports the Group's position as a diagnostic supplier to the NHS, a large market player.

Collaboration with AstraZeneca, GSK and University of Cambridge

In April 2020, Novacyt announced a collaboration with AstraZeneca, GSK and the University of Cambridge, to support the UK Government's plan to increase testing for COVID-19. A new testing laboratory was set up at the Anne McLaren Laboratory, University of Cambridge, for high throughput COVID-19 testing and to study the use of alternative reagents in test kits to overcome potential supply shortages. Novacyt's primary role within the collaboration is to ensure effective workflow within this testing facility. As part of the collaboration, Primerdesign helped design and develop a new COVID-19 test specifically for the Cambridge testing centre. The technique can be used across multiple testing platforms to create a more rapid testing process. As diagnostic testing is not a key business for GSK or AZ, the participation of Novacyt in this collaboration with two leading pharmaceutical companies is a validation of the Group's expertise.

Major scale-up in manufacturing capability

With sales significantly higher than in previous years, Novacyt has been focused on expanding its manufacturing capacity and ensuring the robustness of its supply chain to meet the ever-growing demand for the Group's diagnostic test. The Company now has access to eight manufacturing sites capable of producing COVID-19 tests with an output rate of over 10m tests per month, having met the previous target run rate of 4m test/month in April 2020.

The Group has also engaged Chartwell Consulting (Chartwell), a specialist in rapid process improvement, to assist in managing its scale-up plans. In working with Chartwell, Novacyt has significantly increased its output by: investing in the

manufacturing capabilities at the Group's sites; striking partnership agreements with contract service suppliers; and stockpiling core test components. The Company now has significant stock levels of raw materials and key components to hedge against any future procurement challenges. In September, Novacyt highlighted that it has the capacity to meet the demand of the recent UK DHSC contract as well as to continue to build sales across global markets.

Ongoing evaluation of the test provides comfort to end-users

To ensure Novacyt's *genesig* COVID-19 test remains reliable over time, especially given the ability of the SARS-CoV-2 virus to mutate, the Company continuously evaluates the ability of the test to detect the virus as part of its ongoing genome surveillance programme. Novacyt's high quality control standards provide comfort to customers regarding the reliability of the assay. Moreover, the test has been independently evaluated by specialist third party lab groups.

A performance evaluation of the *genesig* COVID-19 test by Public Health England showed that the test had a specificity of at least 98.2%. An additional evaluation by an NHS Clinical Pathology Laboratory in the Hampshire Hospitals NHS Foundation Trust showed that the assay had 100% specificity for SARS-CoV-2 virus. A further evaluation conducted by FIND, an international non-profit focused on medical diagnostics, confirmed 100% sensitivity and 100% specificity when tested against 50 positive and 100 negative SARS-CoV-2 clinical samples.

The main difference between most RT-PCR based tests is the primer sequences used. Primers initiate the amplification of a specific sequence of viral RNA, making it detectable by the test. As such, it is important that these primers correspond to a genetic sequence specific only to the SARS-CoV-2 virus, to reduce any false readings. Given that viral genomes are prone to mutation, it is imperative that the primers remain up to date with the latest genomic analysis. Novacyt continues to monitor the genomics of the SARS-CoV-2 virus against the COVID-19 test to ensure the accuracy of the test. As of 5th October 2020, the test continues to present 100% homology to 84,719 published SARS-CoV-2 sequences and does not display cross reactivity with other related viruses, which could lead to false positive results.

Development of new products for COVID-19 testing

Whilst Novacyt's COVID-19 test continues to attract significant interest, the Group is continuing to develop additional COVID-19 products. These products aim to support end-users' testing capabilities and should provide Novacyt with incremental revenues alongside its original clinical test kit.

In June 2020, the Group launched three new products which provide customers with additional tools to support their COVID-19 testing programs:

1. **exsig® Direct** is a direct-to-PCR RNA extraction kit which is expected to increase testing throughput by up to 50%. The kit uses a combination of optimised buffers to extract SARS-CoV-2 RNA from patient samples for subsequent testing. A limited supply of reagents for conventional RNA-extraction kits has been highlighted as a bottleneck to increased testing. Therefore, the launch of exsig® Direct should provide an alternate method for RNA-extraction and support testing capacity.

2. **exsig® Mag** uses magnetic particles and a proprietary mix of buffers for extraction of SARS-CoV-2 RNA from clinical samples to support ultra-sensitive detection of SARS-CoV-2 when used in combination with the Company's COVID-19 test.

3. **COVID-HT test** is a new PCR-based COVID-19 test, specifically designed for laboratories performing high volumes of tests. The new test has been CE-Marked and validated to perform at the same levels of specificity and sensitivity as the Company's existing COVID-19 test.

In July, Novacyt provided an R&D update outlining a further expansion of its COVID-19 product offering, including the development of:

1. **Antibody tests:** A limitation of PCR-based tests is that they only detect if a patient currently has the virus, not if the patient has been previously infected. The ability to screen individuals for prior infections, under the assumption that these individuals would have generated immunity to the virus, has been highlighted as a public health strategy to monitor the spread of infection and guide economic decisions such as determining the scope of lockdowns.

   In September 2020, Novacyt launched a CE-marked serology (antibody) test for the detection of prior infection of SARS-CoV-2. The lab-based test aims to detect a certain class of antibodies, known as immuglobulin G (IgG), which are specific to SARS-CoV-2 and which, if present, demonstrate that an individual has had prior exposure to the virus. The new antibody test was validated in a study using 1,673 patient samples and demonstrated specificity of 99.4% and 100% sensitivity in patients tested at 14 days after testing positive for COVID-19 by PCR. The test is an enzyme-linked immunosorbent assay (ELISA) and has been designed for use in central laboratories. The antibody test complements Novacyt's existing PCR-based product offering, allowing the Group to sell a new product to existing clients. The Group has manufacturing capacity to deliver over 3m antibody tests per month.

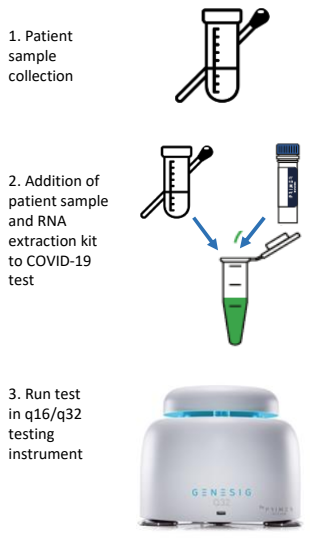
Recent product launches

Product	Date of Launch
exsig® Direct RNA extraction kit	June 2020
exsig® Mag RNA extraction kit	Jun 2020
COVID-HT High-throughput test	Jun 2020
NPT System Mobile testing platform	Jul 2020
Two-gene test Test which discriminates COVID-19 and other coronaviruses	Sep 2020
***Winterplex ™* Respiratory panel** Detection of multiple respiratory viruses (e.g. COVID-19, Influenza, RSV)	Sep 2020
Antibody test Detection of anti-SARS-CoV-2 IgG	Sep 2020

Source: Company announcements

2. **Mobile testing:** The *genesig COVID-19 test* was developed for use in centralised laboratories by a highly skilled workforce. On July 27th, Novacyt launched a new platform which allows for decentralised, near-patient testing (NPT) which can generate results in under 60 minutes. The NPT system has been validated by a leading third-party clinical laboratory which conducted a study of over 400 patient samples reporting sensitivity and specificity both greater than 99%.

Near point of care testing process



Source: Compiled by SP Angel

This system is being evaluated as part of a large, randomised clinical trial, involving 50 care homes across London. Led by Queen Mary University of London, the 2,000 patient study is investigating whether daily COVID-19 testing reduces the condition's infection rate, morbidity and mortality in care home populations. A further trial is being run by a London hospital to evaluate whether the NPT system can help surgery scheduling and imaging appointments during the pandemic. These NPT systems are complementary to Novacyt's high-throughput lab-based assays, which are able to process a larger number of samples per batch (i.e. 96 samples) in spite of taking longer to generate results. The development of the NPT system has formed the bedrock for the Group's recent UK DHSC contract where 300 systems were ordered in the initial portion of the contract.

3. **Two-gene tests:** A few markets, such as France and India, have stated that to detect SARS-CoV-2, diagnostic tests need to look for two genes. This is despite Novacyt's current single gene test meeting all specificity and sensitivity targets for the disease. Therefore, to drive more opportunity Novacyt launched a two-gene COVID-19 test in September 2020.

4. ***Winterplex™* respiratory testing panel:** A key issue for public health providers and governments is the risk of a resurgence of COVID-19 infections, and the difficulty of distinguishing COVID-19 from other seasonal respiratory diseases, such as the common cold or flu. Novacyt developed and launched the *Winterplex*™ respiratory disease panel in August 2020, in time for the Northern hemisphere's 2020/21 flu season. *Winterplex*™ aims to assist healthcare providers in determining which virus a patient is infected with. The panel consists of tests for multiple respiratory viruses including influenza A&B, RSV, generic-coronavirus and COVID-19. The product has received CE-marking with clinical trial data regarding *Winterplex*™ demonstrating 100% specificity and between 96%-100% sensitivity across the panel. The test panel is designed to be used on any open PCR platform, including the Company's portable q32 instrument.

5. **Saliva sample collection:** The *genesig COVID-19* test was originally developed to test patient samples which have been collected via sputum or throat/nasal swabs. A recent study by the Liverpool School of Hygiene and Tropical Medicine, using Novacyt's COVID-19 test, demonstrated that saliva collection can also provide an adequate sample for detection. The ability to use saliva samples for Novacyt's test would provide a more user-friendly sample collection method, compared to throat/nasal swabs, allowing for lower levels of discomfort. This would be an attractive feature if frequent testing is required such as via the NPT system.

COVID-19 testing landscape

Since the initial outbreak of COVID-19 in January 2020, there has been a considerable push to develop tests to diagnose COVID-19 infection. Novacyt, via the release of its *genesig COVID-19* test in February 2020, was one of the first to release a CE-marked PCR-based test. There are currently 207 PCR-based COVID-19 tests with CE-IVD status and 82 molecular-based assays which have received US FDA Emergency Use Approval (FINDdx.com). Key questions for Novacyt and other diagnostic manufacturers are: how long will demand for COVID-19 diagnostics last, and on what scale? Although this is difficult to predict, there are multiple drivers which indicate that demand for Novacyt's COIVD-19 portfolio will continue well into 2021. We expect there to be increased demand for near-point-of-care testing platforms, such the Groups NPT system, which support on-site testing for offices, schools and care homes, as efforts are made to reopen economies after hard lockdowns. Furthermore, with winter approaching, we expect increased use of respiratory panels which can distinguish between COVID-19 and other diseases with similar symptoms, such as flu and this is likely to create repeatable demand for some years to come. This demand has been demonstrated by the recent contract with UK DHSC for the supply of Novacyt's NPT products to support COVID-19 testing, including the *Winterplex*™ respiratory panel.

US Testing figures from LabCorp and Quest Diagnostics

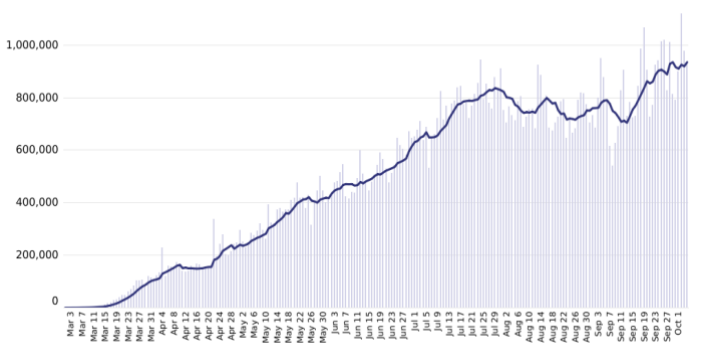
	LabCorp	Quest Diagnostics
Antibody test capacity/day	300k	200k
Molecular test capacity/day	180k	150k

Source: LabCorp (data updated 30/7/20); Quest Diagnostics (data updated 03/08/20)

Government testing targets continue to grow

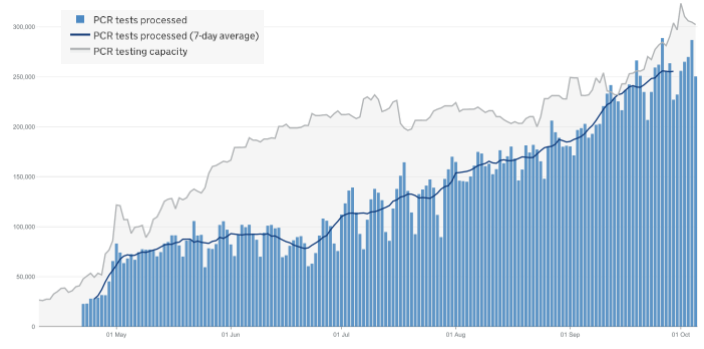
Since the pandemic started, the UK has processed 23.5m COVID-19 tests and currently has testing capacity of 302,153 tests per day. Having previously targeted 100,000 tests per day, the UK Government is now targeting capacity of at least 3.5m tests per week (c.500k tests per day) by the end of October and to test 150k at-risk people without symptoms per day by September. Germany, another of Novacyt's key markets has performed over 13.3m tests (ECDC) and has capacity for 1.2m tests per week in preparation for a potential resurgence of cases. In the US, testing capacity has been ramped up to c.911k tests per day (The Covid Tracking Project), with Harvard's Global Health Institute indicating that this should be raised to c.1.3m tests per day to contain current outbreaks. US commercial laboratory operators, such as Quest Diagnostics and LabCorp, continue to expand testing capacity to meet this growing demand. Quest and LabCorp have testing capacity for c.150-180k PCR tests per day and have performed 12.2m and c.4m tests respectively. With governments increasing their testing targets and commercial laboratories still increasing their testing capacity we expect there is considerable opportunity for Novacyt to continue to market its COVID-19 test.

US Daily Reported Tests. 7-day average line



Source: The COVID Tracking Project

UK daily reported PCR swab tests



Source: Gov.UK

Demand for testing expected after a vaccine is developed

The launch of an effective vaccine could reduce the need of large scale COVID-19 testing. Vaccines manufacturers have made good progress in developing a vaccine, with some groups targeting regulatory approval by the end of 2020. Although this target could be met, we expect the widespread release of a vaccine in mid-2021. Prior to the release of a vaccine, we expect high demand for COVID-19 tests to continue as the primary method of mitigating further outbreaks. Once a vaccine has been made available, we expect demand for diagnostics to decrease over time but not disappear entirely. Any vaccine developed is unlikely to have high efficacy in preventing COVID-19 transmission. For example, the efficacy of seasonal flu vaccines ranged from 19-48% in the past 5 seasons (Source: US CDC). Furthermore, not all the population is expected to receive a vaccine, with inoculation expected to be reserved for individuals deemed at high risk of developing severe disease and key workers. Therefore, testing will still likely be required in individuals presenting with COVID-19 symptoms.

Preparations for a potential second wave

Whilst the search for a vaccine continues, governments and healthcare providers are increasingly concerned about the risk of a second spike of cases within the winter months, which would coincide with seasonal flu, another respiratory viral disease with similar symptoms as COVID-19. In the US 2018-19 flu season, the CDC estimated that c.35.5m people fell ill from influenza with 490,600 hospitalisations and 34,200 deaths. In England, the average number of deaths for the last five flu seasons was c.17,000. Given the similarity in symptoms to COVID-19, we expect individuals who present with symptoms will need to be tested to rule-out COVID-19 infection to avoid the risk of disease transmission and future outbreaks. The availability of respiratory testing panels which can diagnose and distinguish between different respiratory diseases will be a key tool for this period. We anticipate Novacyt's *Winterplex*™ respiratory panel, launched in September 2020, to attract significant interest as a means of making this distinction.

Supply shortage of sample preparation kits

RNA must be extracted from the patient sample to perform the PCR test. Given the unprecedented demand for PCR IVD tests, a key bottleneck has been the availability of sample preparation kits and the constituent reagents. Kit manufacturers have been rapidly expanding operations to meet this demand. Qiagen, a leading manufacturer of sample preparation kits highlighted it has capacity for producing viral RNA extraction solutions for 12m patient samples per month (as of June 30, 2020) and is targeting 20m tests/month in Q420. Historically, Qiagen allocated production capacity for these reagents to supply c.1.5m patient samples per month. With such high demand for these kits we expect Novacyt to support testing capacity for its own test, as well as others, through the release of exsig® Direct, an alternate method for RNA-extraction.

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Term	Definition
Sensitivity	Ability to correctly identify those with the disease (true positive rate)
Specificity	Ability to correctly identify those without the disease (true negative rate)

Demand for antibody tests

Whilst PCR-based tests remain the gold-standard for testing for active infection, demand for antibody tests continues to grow albeit at slower volumes. Antibody testing can identify if a patient has previously had COVID-19. There are currently 268 antibody tests with CE-IVD designation and 27 with US FDA EUA (Source: FINDdx.com). An issue with antibody tests is their potential inability to detect anti-SARS-CoV-2 antibodies due to fluctuations of antibody levels over time. The US FDA recently issued stricter requirements for distributing these tests, having previously allowed manufacturers to distribute antibody tests without the need for authorisation. Manufacturers are now required to submit an Emergency Use Approval request as well as validation results (accuracy, sensitivity and specificity) for review. These requirements should improve confidence in the use of antibody tests in track and trace programmes however we consider portable, rapid, point-of-care molecular tests which can enable frequent testing for active infection to be the leading technology in this area. These platforms include Novacyt's NPT system and Abbots ID Now system. Whilst we do not see the use of antibody tests in community settings to be as widespread as generally thought, the recent launch of the Group's Microgen SARS-CoV-2 IgG serology test ensures the Group has a product offering in this market.

Selected Nucleic acid assays for COVID-19

Developer	Name	Time to result	Manufacturing capacity	FDA EUA	CE-IVD	Type of Assay
Novacyt	**COVID-19 Genesig Real-Time PCR assay**	**90 minutes (60 mins for NPT system)**	**c.10m/month**	**Yes**	**Yes**	**RT-PCR**
Abbott	Abbott RealTime SARS-CoV-2 EUA test	6.5 hours	c.4m tests/month	Yes	Yes	RT-PCR
Abbott	ID NOW diagnostic	5 minutes	1.5m/month	Yes	Yes	Loop-mediated isothermal amplification
Danaher (Cepheid)	Xpert Xpress SARS-CoV-2	45 minutes	c.2m	Yes	Yes	RT-PCR
DnaNudge	RNA COVID-19 Nudge test	90 minutes	Unknown (delivering 5.8m tests to the NHS from September)	No	Yes	RT-PCR
genedrive	Genedrive® 96 SARS-CoV-2 kit	unknown	Capacity for up to 10,000 PCR beads per hour	No	Yes	RT-PCR
Hologic	Panther Fusion® SARS-CoV-2 test,	3 hours	c.4m/month (targeting 4.5m/week)	Yes	Yes	RT-PCR
Oxford Nanopore	LamPORE swab tests	90 minutes	1m tests/month	No	Yes	Loop-mediated isothermal amplification
Qiagen	QiaStat-Dx Respiratory SARS-CoV-2 Panel	1 hour	5m tests/month end of April	Yes	Yes	RT-PCR
Quidel Corporation	Lyra Direct SARS-CoV-2 Assay	70 minutes	2m/month	Yes	Yes	RT-PCR
Quidel Corporation	Sofia 2 SARS Antigen FIA	15 minutes	4m/month (targeting 6m/month)	Yes	Yes	Antigen
Roche	Cobas/Lightcycler SARS-CoV-2 Test	3 hours	15m/month	Yes	Yes	RT-PCR
Thermo Fisher Scientific	TaqPath COVID-19 CE-IVD RT-PCR Kit	2 hours	c.5m/week (targeting c.10m/week)	Yes	Yes	RT-PCR
Yourgene	Clarigene™ SARS-CoV-2 test	80 minutes (following RNA extraction)	10,000/month	No	Yes	RT-PCR

Source: Company websites; Bloomberg; FINDdx.com; LAMP: Loop-mediated isothermal amplification; RT-PCR: Reverse transcription polymerase chain reaction

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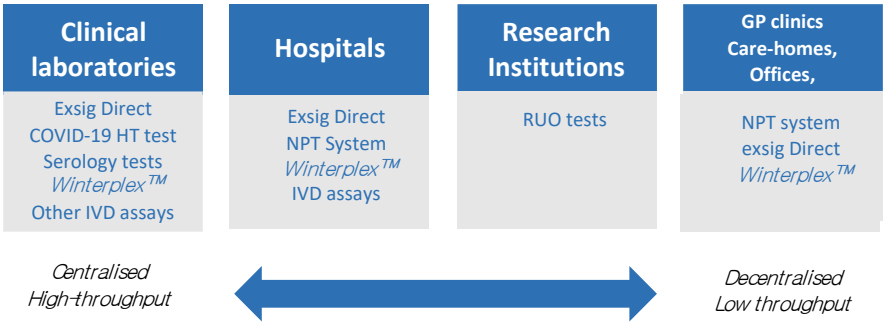
Both core business segments poised for growth

After disposing of Clinical Lab, a clinical pathology service, and NOVAprep® in 2019, the Group is now focused on driving revenue via the sale of laboratory assays and reagents developed by Primerdesign and Lab21. These core units operate in a highly profitable market where reagent sales command strong margins and repeat income. Moreover, the sector is highly fragmented, offering many opportunities for growth by acquisition.

Focus on IVD sales in respiratory and transplant markets

Although sales associated with the COVID-19 test are expected to generate the lion's share of revenues in the short term, Novacyt has streamlined its operations to focus on expanding its menu of high value IVD kits to further drive future long-term organic growth. The Group also looks to perform acquisitions to accelerate revenue growth. This strategy should enable the Group to continue to expand its business as demand for COVID-19 related products subsides. In Novacyt's recent interim results, the Group highlighted a particular focus on IVD products withing the respiratory and transplant markets. Both of these markets are rapidly growing areas which offer the potential for large volumes of high-margin test sales. The Group is looking to leverage the brand awareness and new customers generated by its COVID-19 product offering to drive sales for future products in these areas. Furthermore, Novacyt is focussed on growing its salesforce both organically and via acquisitions to support its ability to generate revenues and capture market share. To achieve this, the Group intends to invest in its commercial infrastructure within the UK and establish direct salesforces in certain markets. Finally, management is evaluating operating models for the US market, one of the largest IVD markets.

Expanding product pipeline to cover infectious disease testing market



Source: Compiled by SP Angel

Acquisition of IT-IS strengthens core product portfolio

In October 2020, Novacyt acquired IT-IS International Ltd (IT-IS), a profitable diagnostic instrument development and manufacturing company, for an initial cash consideration of £10.1m. IT-IS is a longstanding partner of Novacyt and is the exclusive manufacturer of the Group's q16/q32 PCR instruments. The acquisition supports Novacyt's long-term growth opportunity for rapid near-patient testing.

Terms of acquisition

Novacyt is to pay £10.1m cash upfront to IT-IS in return for the entire issued share capital of IT-IS. The initial consideration will be reduced by £3.6m of cash on the balance sheet of IT-IS at completion, resulting in net cash consideration of £6.5m. In the year-ended 31 December 2019, IT-IS posted £3.9m in revenues at 55% gross margin and net profit of £0.8m. The acquisition is earnings accretive with FY20E revenues expected to grow to £5.0m with gross margins improving to 58%. An earn out of up to £1.9m in cash is payable to the IT-IS directors over the next two years, subject to certain manufacturing targets being achieved.

Acquisition supports growth in the decentralised testing market

The acquisition comes shortly after Novacyt outlined its strategy to strengthen the Group's IP portfolio to enhance and secure long-term future value as COVID-19 sales decline. The COVID-19 pandemic is accelerating a shift to decentralised testing. Novacyt is well-positioned in this market via the rollout out of its NPT system and recently struck a major contract with the UK DHSC which focuses on the supply of Novacyt's q16/q32 PCR instruments and test kits. With this acquisition, Novacyt gains further control over the production of the q16/q32 PCR instruments and aims to increase the manufacturing output of IT-IS to manage the expected demand for these instruments for decentralised tests. With higher volumes anticipated, Novacyt expects to reduce COGS, improving gross margin on instrument sales. In addition to the manufacturing expertise and IP surrounding the Group's q16/q32 PCR instruments, this acquisition enables Novacyt to market other products within IT-IS's portfolio such as its own branded instruments: the MyGo Mini and MyGo Pro,

Primerdesign: Molecular Diagnostics

Primerdesign was acquired by Novacyt in May 2016. Founded in 2005 as a spin-out from the University of Southampton, the business has been profitable since its establishment. The company designs, manufactures and supplies molecular PCR kits, reagents and instruments. The group's target segments include: Research Use Only (RUO) tests; *in vitro* diagnostics for clinical testing; and other areas such as food and veterinary testing. In addition to COVID-19 testing, the company focuses on capturing market share in niche areas overlooked by larger companies, which primarily focus on high-volume tests.

R&D capabilities enable rapid production of tests

Primerdesign has a strong R&D team which is able to rapidly develop and launch novel assays in reaction to new market opportunities. This was demonstrated by the group's approach to the COVID-19 pandemic, where it developed a novel test for SARS-CoV-2 within four weeks.

Primerdesign product offering

1. **Diagnostics assays**: The group's genesig® qPCR range consists of over 500 assays for pathogen detection, food & water testing and veterinary & agricultural testing. These assays can either be run on the group's genesig q16/q32 instruments or they can be used on third party molecular analysis platforms. Prices per consumable typically range between €10 and €50. The company also offers development services to design and manufacture bespoke assays.
2. **Portable instruments for mobile testing:** Primerdesign has developed a range of portable RT-PCR instruments which are designed to enable an unskilled operator to remotely run its portfolio of diagnostic assays. The genesig® q32 qPCR instrument was launched in May 2019 and can test 32 samples in under two hours. These instruments, in combination with the group's portfolio of assays allows Primerdesign to run a razor-razorblade business. The NPT system that Novacyt recently launched runs via the group's q16/q32 instruments and is expected to provide meaningful revenues. Although early uptake of the NPT system is difficult to predict, the demand for near point-of-care molecular testing continues to increase, driven by the current pandemic. This interest has been demonstrated by the recent UK DHSC contract with the initial phase involving the deployment of 300 q16/q32 instruments.

genesig® q32 qPCR

Source: Primerdesign website

Primerdesign product range

Range	Comments
genesig®	Human pathogen targets (HIV, HCV, TB etc) Vet and agriculture targets (H1N1, Avian flu etc) Food and water testing targets (Meat speciation, GMO, E. coli etc) Biothreat detection targets (anthrax etc) Genotyping targets (BRAFV600E etc)
MasterMix	qPCR mastermixes, OneStep qRT-PCR mastermixes Fast cycling/ Lyophilised qPCR mastermixes
Custom design	On demand primers for any gene in any species Access to over 15 million highly validated predesigned assays in Primerdesign's proprietary primer database On demand custom genotyping assays
qPCR instrumentation	genesig® q16/q32 qPCR platform
exsig®	RNA extraction kit

Source: Primerdesign website

Market strategy

Research use only (RUO) tests

Prior to the COVID-19 outbreak, Primerdesign's core market was for RUO tests. RUO tests are used in academic and pharmaceutical research, rather than for clinical diagnosis. As such, they are not regulated by medical authorities and can therefore be rapidly developed, often within a month. Customers are typically universities and hospitals which use the products for academic purposes such as running scientific experiments. Primerdesign benefits from an extensive menu of commercial RUO assays across both niche and high-volume testing areas. The group markets these tests using a direct sales team within the UK and via distribution partners overseas.

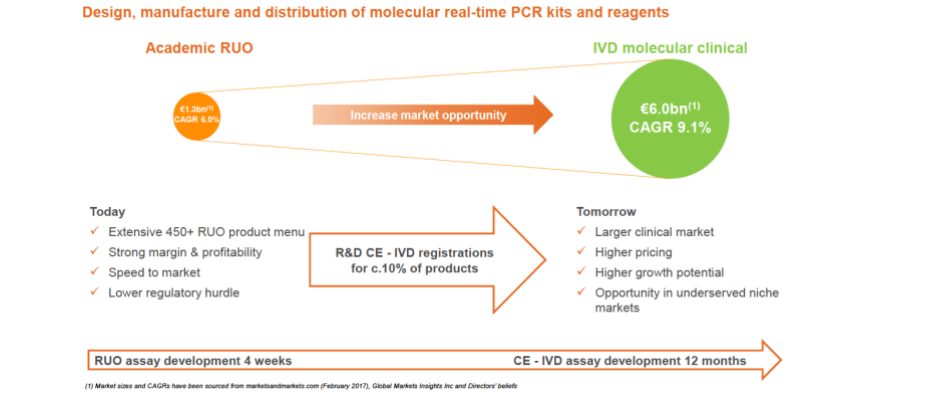
Conversion of RUO products into higher margin in vitro diagnostics

Although RUO assays do not require regulatory clearance, they tend to be sold in lower volumes and command lower prices compared to regulated *in vitro* diagnostics (IVD).

IVD assays are highly regulated by medical authorities because they are used to evaluate human samples, such as blood, urine or tissue, to guide clinical decisions. To market IVD products the tests must receive approval from regulators, such as 510(k) clearance from the US FDA, or CE-marking and compliance with the In Vitro Diagnostic Directive process standards for Europe. Due to these regulatory requirements the conventional approval process can take up to 12 months.

Since acquiring Primerdesign in 2016, Novacyt has been focused on expanding into the clinical molecular testing space via the launch of additional CE-marked IVD products. The Group primarily achieves this by identifying RUO assays within its portfolio which can treat a clinical need, and then converting them into IVD tests. The Group released its first CE-IVD accredited assay, for the detection of Zika disease, in July 2017 and now offers several CE-IVD products. Primerdesign has historically focused on releasing products in market segments with limited market competition from larger molecular businesses. With increased brand awareness and an improved cash position as a result of its COVID-19 operation, Primerdesign is in a stronger position to target and enter into larger addressable markets, with more competition but where higher volumes of test sales can occur.

Transition to high margin IVD tests



Source: Novacyt admission document

Other market sectors

Whilst the core business focuses on driving clinical sales, Primerdesign still aims to continue developing products for large markets where IVD accreditations are not required, such as food-safety, agriculture and veterinary testing. The use of Primerdesign's assays can enable early identification of diseases which could impact animal health during food production and can reduce the risk of economically damaging disease outbreaks. In 2019, Primerdesign developed an assay to detect African swine fever (ASF) virus, a highly contagious disease which causes high mortality in pigs. Last year, outbreaks of ASF in China led to a c.40% reduction in pig stocks. In 2019, Primerdesign also struck an agreement with the Antinea Group regarding the distribution of the diagnostic products for aquaculture markets in France. Antinea is one of the largest independent distributors of aquamarine products in France, the second largest aquaculture producer in the EU.

Primerdesign financial performance

Primerdesign has been the Group's best performing business unit, demonstrated by the commercialisation of the COVID-19 test. With most of the revenues driven by consumable reagents, the business commands high margins. In FY19A, margins were c.85%. The continued release of CE-IVD products, such as the respiratory disease panel, as well as the exsig® product line is an opportunity to maintain high margins. In terms of regional sales, Europe remains the core market, however, the group is looking to expand its presence within the US market. The US is the largest healthcare market globally and has the highest health expenditure per capita. Other regions of interest include the Asia-Pacific region, which is expected to see rapid growth in molecular diagnostics due to improving healthcare infrastructure, as well as the Middle East. Primerdesign benefits from a strong existing distribution and customer network which the business can leverage to drive sales in these regions.

Primerdesign historic financials (€'000)

Molecular Products	2016A	2017A	2018A	2019A
Africa	249	363	285	356
Europe	1,620	2,531	2,811	2,676
Asia-Pacific	511	1,656	1,282	812
America	690	1,192	1,578	1,934
Middle East	218	352	262	528
Revenue	**3,288**	**6,094**	**6,218**	**6,306**
Cost of sales	(607)	(1,170)	(969)	(922)
Margin	*82%*	*81%*	*84%*	*85%*
Sales and marketing costs	(515)	(959)	(1,302)	(1,444)
Research and development	(275)	(513)	(244)	(413)
General & administrative expenses	(979)	(2,279)	(2,525)	(2,793)
Governmental subsidies	55	127	(125)	-
Operating (loss)/profit before exceptional items	**968**	**1,301**	**1,054**	**735**

Source: Novacyt annual reports

Lab21: Protein diagnostics

Whilst Primerdesign is focused on molecular diagnostics, Novacyt's second core business, Lab21, is focused on the development, manufacture and sale of protein-based diagnostic kits. Lab21's product offering consists of IVD assays, such as rapid pathogen tests, and non-clinical products for the detection of bacteria, fungus and viral pathogens. The business currently manufactures a large number of products and benefits from a strong distribution network of over 300 distributors, which is particularly strong in developing markets.

The differentiated product offering of Lab21 and Primerdesign enable Novacyt to access a large market across both protein and molecular diagnostics and provides synergies across the units such as consolidated manufacturing, regulatory processes and distribution channels.

Lab21 Brand segments

Brand	Comments
Lab21 Healthcare	Provider of high-quality clinical diagnostics for serology and haematology
Microgen Bioproducts	Developer, manufacturer and distributor of microbiology diagnostics for clinical and food laboratories
Biotec	Manufacturer and supplier of diagnostic reagents, test kits and blood grouping reagents to customers in over 80 countries worldwide.
Plasmatec	Portfolio of over 50 CE-marked *in vitro* diagnostic tests marketed to over 70 countries worldwide. Core products in the latex microbiology and serology, blood grouping antisera, syphilis serology and pregnancy testing

Source: Novacyt admission document

Broad portfolio of IVD products with established brands

Established in 2005, Lab21 has built up a large portfolio of robust assays. The high quality of these assays has generated strong brand awareness for the group's offering and created a loyal customer base. Most of Lab21's products do not require external instrumentation to perform the tests, making them attractive in emerging market regions which may lack the healthcare infrastructure required for molecular tests. As a result, Lab21's tests are typically sold into developing markets for screening purposes or sold in lower volumes for confirmatory purposes with sales typically tender-driven. This strategy has delivered steady recurring income and provided the Group with a strong foothold in emerging markets within South America and Asia. This network can be leveraged to drive growth in other areas of the business, such as Primerdesign. Similar to Primerdesign, Lab21 benefits from a strong R&D unit which can quickly design and generate new tests. This was demonstrated by the launch of a CE-Marked serology (antibody) test for the detection of IgG antibodies to SARS-CoV-2 in September 2020.

Lab21 products


Source: Lab21 website

Lab21 growth strategy

Lab21 operates in a more mature market with a slower growth rate than molecular diagnostics serviced by Primerdesign. Protein-based diagnostic reagents are low cost, typically costing in the range of €0.10 to €20 per test and offer lower margins than molecular diagnostics. Novacyt aims to develop Lab21 into a self-sustaining, cash generative business with low-double-digit profitable sales growth. To achieve this, the business is focused on the launch of complementary products into existing markets as well as adding new territories such as Brazil and the US.

Increase proportion of in-house products to improve margins

Historically, c.25% of sales by Lab21 were for third party products. Lab21 has implemented a program to increase in-house production of these tests, which should give the group tighter control over the supply chain and product quality at lower costs. This should further increase margins for the business.

Expand B2B network

Similar to Primerdesign, Lab21 is looking to expand its business to business network. The Group has previously formed partnerships with multinational life sciences companies including Becton Dickinson, Danaher and Bio-Rad Laboratories. The raised profile of Primerdesign, due to its COVID-19 test, should enhance customer awareness of other areas of the business, such as Lab21's product offerings, which could contribute to further sales growth.

Investment in supply chain to improve financial performance

Prior to FY19A, Lab21 demonstrated high single to low double-digit revenue growth with margins improving to c.45% from FY16A to FY18A. In FY19A, Lab21 was impacted by low levels of working capital and disruption in the supply chain, resulting in sales falling by 6% y/y. As a result of the supply chain not being fully restored by Q4, an order book of over €1.5m was carried into FY20 of which over €1m could not be fulfilled. We expect that the cash flow generated as a result of the COVID-19 product should support investment into the Lab21 business and drive clinical product sales.

Lab21 subsidiary financials (€'000)

Corporate & Diagnostics	2016A	2017A	2018A	2019A
Africa	376	299	715	639
Europe	3,217	3,347	3,304	2,809
Asia-Pacific	1,555	1,608	1,738	1,744
America	542	661	795	738
Middle East	506	739	951	845
Revenue	**6,196**	**6,654**	**7,503**	**6,775**
Cost of sales	(3,585)	(3,671)	(4,147)	(3,787)
Margin	*42.1%*	*44.8%*	*44.7%*	*44.1%*
Sales and marketing costs	(1,360)	(1,015)	(1,152)	(1,256)
Research and development	(131)	(113)	(162)	(38)
General & administrative expenses	(2,814)	(2,364)	(2,635)	(2,514)
Governmental subsidies	162	119	75	3
Operating (loss)/profit before exceptional items	**(1,532)**	**(390)**	**(518)**	**(817)**

Source: Novacyt annual reports

Financials

Our Income Statement summarises our revenue and margin forecasts. Whilst we acknowledge the difficulty forecasting how an ongoing pandemic will unfold, we expect short-term revenues to be driven by COVID-19 related sales, complemented by the introduction of new product lines such as exsig®, *Winterplex*™ and the NPT system. From FY23E, we estimate that an increased proportion of revenues will be driven by the sale of other IVD products from Primerdesign and Lab21.

- **COVID-19 PCR revenue:** A key revenue driver for our forecasts is the demand for COVID-19 tests. We expect FY20E and FY21E to be peak sales periods for the Group's COVID-19 test. For FY20E and FY21E, we expect PCR test revenues to remain flat y/y at €150.8m. Within this period, we expect H220E and H121E to see peak demand. We believe this is a reasonable assumption, given test sales in the year-to-date (the Group posted June sales of €25.4m, representing the sixth month of consecutive growth) and the UK DHSC supply contract struck in September. This expectation is underpinned by global demand for population testing, prior to the development and widescale rollout of an effective vaccine program, which we expect to occur in mid-FY21E. Before a vaccine is available, we see governments and healthcare providers continuing to purchase COVID-19 tests to reduce the likelihood of a resurgence in infections - especially during the winter months, when a second wave of infections could put severe strains on healthcare infrastructure and lead to further economically damaging lockdowns.

  Recently released products are expected to provide incremental revenues across this period. These include: the *Winterplex*™ respiratory panel test to distinguish COVID-19 from other respiratory diseases, which will be of particular interest during the upcoming flu season; as well as COVID-19 tests sold as part of the Group's NPT platform.

  The availability of a vaccine could eventually reduce demand for COVID-19 testing and, given the progress made by vaccine developers to date, we expect manufacturing and wide-scale rollout to take place over FY21E. Consequently, in FY22E, we expect COVID-PCR tests to fall c.70% y/y to €45.2m (FY21E: €150.8m). Once a vaccine programme has been established, we believe there will still be a smaller, yet durable need for the Group's test. There will likely be a continued need for COVID-19 testing as part of respiratory panels for screening patients, as well as to test immunity responses to potential vaccines, as it is unlikely that vaccines will provide long-term immunity against COVID-19. As such, we forecast that COVID-19 revenues will continue until the end of our forecast period, albeit declining y/y.

- **exsig® product and near patient testing revenue:** Given the concerns surrounding the supply of sample preparation kits for COVID-19 testing, we expect significant sales of the Group's exsig® product range in FY20E/FY21E as demand for COVID-19 tests remains high. Furthermore, we expect the release of the NPT system to meaningfully contribute to revenues given its involvement as part of the second UK DHSC supply agreement. We expect interest to come from: NHS hospitals and private clinics, high-risk populations such as care homes; as well as non-healthcare sectors, where rapid, frequent testing may be required for operations to continue, such as large offices, professional sport venues and schools. A positive outcome in the ongoing care home trial being run by

Queen Mary University of London should further drive NPT system sales. Furthermore, the initial sales growth related to COVID-19 demand would provide a large installed base of q16/q32 instruments which should drive repeat reagent sales of PCR assays and exsig® products in the long-term. In FY20E and FY21E, we forecast exsig® and NPT revenues of €125m, which then falls 50% y/y to €62.5m in FY22E and a further 20% y/y to €50.0m in FY22E, as the demand for COVID-19 testing falls away. The exsig® products have been designed to run on any open diagnostics platform and in conjunction with any PCR test and we see the exsig® range to be a key future product line. From FY23E we expect exsig® product and near patient testing revenue to grow 5% y/y as the Group grows sales outside of its COVID-19 offering.

- **Other product revenue:** Although Novacyt's COVID-19 offering currently makes up the majority of revenue expected over the next few years, we expect the pandemic will eventually be contained and demand will fall away. Novacyt has been streamlining its business to focus on Primerdesign and Lab21 and is now looking to drive revenue growth and profitability in both business segments via an increased focus on clinical IVD products rather than the traditional offering of RUO and industrial tests. Given that the Group is currently focused on generating COIVD-19 sales, we expect FY20E Other product revenue to fall 9% y/y to €12.0m. Following this, we expect Other Product revenue to register y/y growth of 20-30% for the remainder of the forecast period. This is driven by new customers as a result of Novacyt's raised profile due to COVID-19, as well as the release of additional IVD products.

- **Gross profit** for FY20E and FY21E is expected to be €236.9m and €235.1m, respectively, with gross margins improving to >80%. This is due to revenues coming primarily from high-margin CE-IVD sales of the COVID-19 test and exsig® product lines. This high gross margin (FY19 gross margin was 64%), is expected to be broadly maintained in FY22E and onwards, as the Group develops and commercialises additional CE-IVD assays. The margin drops slightly to 78% by FY24E as NPT instrument sales and some lower margin RUO tests account for more of the sales mix.

- **Operating expenses:** We expect FY20E total operating expenses (including depreciation & amortisation) to be €16.3m. This is a 41% increase from FY19E (€9.6m) as the Group has expanded its manufacturing capabilities to reflect demand for the COVID-19 test. This is expected to rise a further 30% y/y to €23.0m in FY21E followed by c.2-5% growth for the rest of the forecast period.

Revenue and margin forecasts

(Dec year-end) (000' €)	2018A	2019A	2020E	2021E	2022E	2023E	2024E	2025E
Covid-19 PCR tests	**-**	**-**	**150,800**	**150,800**	**45,240**	**27,144**	**28,501**	**29,926**
Growth rate	-	-	-	*0%*	*-70%*	*-40%*	*5%*	*5%*
Exsig product and Near patient testing	**-**	**-**	**125,000**	**125,000**	**62,500**	**50,000**	**52,500**	**55,125**
Growth rate	-	-	-	*0%*	*-50%*	*-20%*	*5%*	*5%*
Other product revenue	**13,722**	**13,081**	**12,000**	**14,400**	**18,720**	**24,336**	**31,637**	**37,964**
Growth rate	10%	*-5%*	*-8%*	*20%*	*30%*	*30%*	*30%*	*20%*
Revenue	**13,722**	**13,081**	**287,800**	**290,200**	**126,460**	**101,480**	**112,638**	**123,015**
Cost of sales	(5,116)	(4,709)	(50,886)	(55,138)	(25,292)	(21,311)	(24,780)	(27,063)
Gross profit	**8,606**	**8,372**	**236,914**	**235,062**	**101,168**	**80,169**	**87,858**	**95,952**
GM (%)	*63%*	*64%*	*82%*	*81%*	*80%*	*79%*	*78%*	*78%*

Source SP Angel forecasts

INCOME STATEMENT (Dec year-end) (000' €)	2018A	2019A	2020E	2021E	2022E	2023E	2024E	2025E
Covid-19 PCR tests	**-**	**-**	**150,800**	**150,800**	**45,240**	**27,144**	**28,501**	**29,926**
Growth rate	-	-	-	*0%*	*-70%*	*-40%*	*5%*	*5%*
Exsig product and Near patient testing	**-**	**-**	**125,000**	**125,000**	**62,500**	**50,000**	**52,500**	**55,125**
Growth rate	-	-	-	*0%*	*-50%*	*-20%*	*5%*	*5%*
Other product revenue	**13,722**	**13,081**	**12,000**	**14,400**	**18,720**	**24,336**	**31,637**	**37,964**
Growth rate	10%	*-5%*	*-8%*	*20%*	*30%*	*30%*	*30%*	*20%*
Revenue	**13,722**	**13,081**	**287,800**	**290,200**	**126,460**	**101,480**	**112,638**	**123,015**
Cost of sales	(5,116)	(4,709)	(50,886)	(55,138)	(25,292)	(21,311)	(24,780)	(27,063)
Gross profit	**8,606**	**8,372**	**236,914**	**235,062**	**101,168**	**80,169**	**87,858**	**95,952**
GM (%)	*63%*	*64%*	*82%*	*81%*	*80%*	*79%*	*78%*	*78%*
Total OPEX (incl. D&A)	(9,030)	(9,614)	(16,300)	(23,000)	(24,150)	(24,633)	(25,126)	(25,628)
Operating Profit (loss) (before exceptional items and D&A)	**(424)**	**(1,242)**	**220,614**	**212,062**	**77,018**	**55,536**	**62,732**	**70,324**
Costs related to acquisitions	-	-	-	-	-	-	-	-
Other operating income	-	127	-	-	-	-	-	-
Other operating expenses	(960)	(661)	(11,541)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)
Operating Profit (loss) after exceptional items	**(1,384)**	**(1,776)**	**209,073**	**210,062**	**75,018**	**53,536**	**60,732**	**68,324**
Financial income/(expense)	(694)	(2,134)	(2,204)	-	-	-	-	-
Profit/(loss) before Tax	**(2,078)**	**(3,910)**	**206,869**	**210,062**	**75,018**	**53,536**	**60,732**	**68,324**
Tax (expense)/income	(32)	8	(26,576)	(27,308)	(10,503)	(8,030)	(9,717)	(12,298)
Effective tax rate (%)	-	-	*13%*	*13%*	*14%*	*15%*	*16%*	*18%*
Profit/(loss) after tax from continuing operation	**(2,110)**	**(3,902)**	**180,293**	**182,754**	**64,515**	**45,506**	**51,015**	**56,026**
Loss from discontinued operations	(2,626)	(2,656)	-	-	-	-	-	-
Profit (loss) after tax	**(4,736)**	**(6,558)**	**180,293**	**182,754**	**64,515**	**45,506**	**51,015**	**56,026**
EPS (c)	**(0)**	**(0.1)**	**255.3**	**258.8**	**91.3**	**64.4**	**72.2**	**79.3**
EPS fully diluted (c)	**(0)**	**(0.1)**	**255.3**	**258.8**	**91.3**	**64.4**	**72.2**	**79.3**
Weighted average number of shares	**37,664,342**	**45,731,091**	**70,626,248**	**70,626,248**	**70,626,248**	**70,626,248**	**70,626,248**	**70,626,248**
Impact of dilutive instruments	-	-	-	-	-	-	-	-
Weighted average number of diluted shares	**37,664,342**	**45,731,091**	**70,626,248**	**70,626,248**	**70,626,248**	**70,626,248**	**70,626,248**	**70,626,248**

Source: SP Angel forecasts

DCF valuation

We believe that the best method for valuing Novacyt is through discounting cash flows (DCFs) as near-term earnings forecasts do not reflect the Group's long-term growth trajectory. For example, COVID-19 PCR test sales are expected to drop off significantly in FY22E to be replaced by other product revenue such as an increased IVD offering and the exsig® product line.

In support of our DCF model we produced six years of forecasts, from FY20E to FY25E inclusively. For the period after that, our terminal value is calculated using a long-term free cash flow growth rate of 4%. We applied a 10% discount rate. Our DCF model indicates a **fair value of £1.0b**, implying a **1,463p target price**.

Our DCF indicates that significant free cash flow will be generated in the next two years as a result of the surge in demand for the Group's high-margin COVID-19 PCR tests. In FY20E, we expect revenues of €287.8m to generate free cash flow (FCF) of €91.4m and in FY21E we forecast revenues of €290.2m and FCF of €236.7m. By FY22E, an increased proportion of revenue will be driven by non-COVID-19 products. In FY23E, we expect FCF of €54.0m increasing to €59.3m by the end of our forecast period.

Discounted cash flow

DCF (December year-end) (000' €)	2020E	2021E	2022E	2023E	2024E	2025E
Operating CF	**120,573**	**264,562**	**104,518**	**63,036**	**65,232**	**72,824**
Net Interest	(2,204)	-	-	-	-	-
Capex	(400)	(600)	(900)	(990)	(1,089)	(1,198)
Tax (net)	(26,576)	(27,308)	(10,503)	(8,030)	(9,717)	(12,298)
FCF	**91,393**	**236,654**	**93,115**	**54,016**	**54,426**	**59,328**
Discounted FCF	**91,393**	**215,140**	**76,955**	**40,583**	**37,174**	**36,838**

Discount rate	*10%*
Terminal growth rate	*4%*
NPV	498,082
TV	638,522
EV	**1,136,604**
Net Cash/(Debt)	-
Fair Value (000' €)	1,136,604
€/£	1.1
Fair Value (000' £)	1,033,277
Shares out (m)	**70.6**
Target Price (p)	**1,463**

Source: SP Angel forecasts

Peer Group analysis

We compiled a peer group of London-listed companies which are also operating in the diagnostics sector and compared their current enterprise value to their current year sales expectations and EBITDA.

In terms of local peers, the average EV/EBITDA (58.5) and EV/Sales (9.8) is significantly higher than that of Novacyt (EV/EBITDA: 3.2; EV/Sales: 2.3), highlighting the undervalued nature of the business. Moreover, Novacyt is already generating significant cash from sales of its COVID-19 test, unlike several of its domestic peers. Given the discrepancy between Novacyt and the peer group average and our forecasted revenue expectations for Novacyt, we view the implied target price from our DCF (1,463p) as a conservative expectation.

Name	Ticker	Mkt Cap (£'m)	Currency Adjusted EV (£'m)	BEst Sales:1FY (£'m)	BEst EBITDA:1FY (£'m)	EV/Sales	EV/EBITDA
Average		**206.8**	**191.7**	**19.5**	**3.3**	**9.8**	**58.5**
Novacyt	**NCYT LN**	**618.0**	**602.1**	**259.0**	**189.5**	**2.3**	**3.2**
Avacta Group	AVCT LN	476.2	422.5	4.4	(9.4)	96.0	NA
EKF Diagnostics Holdings	EKF LN	286.6	271.8	60.1	23.9	4.5	11.4
Yourgene Health	YGEN LN	135.1	135.7	25.3	4.6	5.4	29.3
genedrive	GDR LN	63.0	68.8	2.8	(4.4)	24.4	NA
Diaceutics	DXRX LN	104.7	75.0	12.0	NA	6.3	NA
Omega Diagnostics Group	ODX LN	175.4	176.3	12.6	1.6	14.0	110.2

Source: Bloomberg; SP Angel forecasts (EURGBP: 0.90)

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Cash flow

We expect a significant proportion of COVID-19 test related revenue to convert into cash. For FY20E we expect Free Cash Flow of €91.4m resulting in a closing cash balance of €79.5m. As of 30 June 2020, the Group's net cash balance was €19.7m (cash as at 31 December 2019: €1.8m) highlighting the opportunity for cash generation over the coming months.

CASH FLOW (December year-end) (000' €)	2018A	2019A	2020E	2021E	2022E	2023E	2024E	2025E
EBIT	**(1,384)**	**(1,776)**	**209,073**	**210,062**	**75,018**	**53,536**	**60,732**	**68,324**
Depreciation & Amortisation	1,030	1,880	1,500	1,500	1,500	1,500	1,500	1,500
EBITDA	**(354)**	**104**	**210,573**	**211,562**	**76,518**	**55,036**	**62,232**	**69,824**
Share option related charges	-	-	-	3,000	3,000	3,000	3,000	3,000
Working capital movements	454	1,120	(90,000)	50,000	25,000	5,000	-	-
Exchange Translation	-	-	-	-	-	-	-	-
Operating CF	**100**	**1,224**	**120,573**	**264,562**	**104,518**	**63,036**	**65,232**	**72,824**
Net Interest	(632)	(1,046)	(2,204)	-	-	-	-	-
Capex	(682)	55	(400)	(600)	(900)	(990)	(1,089)	(1,198)
Tax (net)	192	82	(26,576)	(27,308)	(10,503)	(8,030)	(9,717)	(12,298)
FCF	**(1,022)**	**315**	**91,393**	**236,654**	**93,115**	**54,016**	**54,426**	**59,328**
Acquisitions/Disposals	(2,034)	(1,353)	(7,150)	-	-	-	-	-
Share issues (net)	(2)	(175)	-	-	-	-	-	-
Debt movement	1,399	4,171	(6,500)		-	-	-	-
Other	(1,554)	(2,285)	-	-	-	-	-	-
Change in cash	**(3,213)**	**673**	**77,743**	**236,654**	**93,115**	**54,016**	**54,426**	**59,328**
Cash at beginning of period	**4,345**	**1,132**	**1,805**	**79,548**	**316,202**	**409,317**	**463,333**	**517,759**
Cash at end of period	**1,132**	**1,805**	**79,548**	**316,202**	**409,317**	**463,333**	**517,759**	**577,087**

Source: SP Angel forecasts

Balance sheet

The interest in the Group's COVID-19 PCR test in 2020 and subsequent cash generation has enabled Novacyt to restructure its balance sheet via the early settlement of the following long-term debt obligations with Harbert European Growth Capital (HEGC) and Vatel Capital SAS (Vatel). In May 2018, Novacyt entered into a €4m unsecured convertible bond facility with Vatel. The original term was for three years with an interest rate of 7.4%, however, this was restructured in November 2019 with the loan term extended by a year and the interest rate retrospectively increased to 8.9%. In November 2019, Novacyt struck a four-year €5m secured term loan with HEGC with a fixed interest rate of 11% per annum. Novacyt is clearing the debt obligations via the settlement of €7m of principal debt provided by the two lenders. The HEGC loan has been satisfied by the repayment of €6.1m in cash whilst Vatel has exercised its right to convert outstanding debt into shares at a fixed conversion price of €0.70 per share. The remaining €2.1m of debt outstanding has been converted into 2,952,681 ordinary shares. Vatel has agreed to staggered lock-in periods for the majority of the converted shares.

BALANCE SHEET (December year-end) (000' €)	2018A	2019A	2020E	2021E	2022E	2023E	2024E	2025E
Goodwill	16,134	15,918	23,068	23,068	23,068	23,068	23,068	23,068
Other intangible assets	4,944	4,313	1,556	1,256	956	656	356	56
Property, plant and equipment	1,191	3,478	2,678	2,078	1,778	1,568	1,457	1,455
Non-current financial assets	235	240	-	-	-	-	-	-
Other long-term assets	-	214	-	-	-	-	-	-
Non-current assets	**22,504**	**24,163**	**27,302**	**26,402**	**25,802**	**25,292**	**24,881**	**24,579**
Inventories and work in progress	2,347	2,439	92,439	42,439	17,439	12,439	12,439	12,439
Trade and other receivables	3,900	2,168	37,182	27,182	17,182	10,182	10,182	10,182
Tax receivables	94	4	-	-	-	-	-	-
Prepayments	233	406	-	-	-	-	-	-
Short-term investments	10	10	-	-	-	-	-	-
Cash & cash equivalents	1,132	1,805	79,548	316,202	409,317	463,333	517,759	577,087
Current assets	**7,716**	**6,832**	**209,169**	**385,823**	**443,938**	**485,954**	**540,380**	**599,708**
Assets classified as held for sale	**2,294**	**70**	**-**	**-**	**-**	**-**	**-**	**-**
TOTAL ASSETS	**32,514**	**31,065**	**236,471**	**412,225**	**469,740**	**511,246**	**565,261**	**624,287**
Bank overdrafts and current portion of long-term borrowings	3,115	2,457	-	-	-	-	-	-
Contingent consideration (current portion)	1,569	-	-	-	-	-	-	-
Short-term provisions	100	50	-	-	-	-	-	-
Trade and other liabilities	4,647	4,591	39,591	29,591	19,591	12,591	12,591	12,591
Other current liabilities	379	591	-	-	-	-	-	-
Total current liabilities	**9,810**	**7,689**	**39,591**	**29,591**	**19,591**	**12,591**	**12,591**	**12,591**
Borrowings and convertible bond notes	2,259	8,493	-	-	-	-	-	-
Contingent consideration (non-current portion)	-	-	-	-	-	-	-	-
Retirement benefit obligations	-	-	-	-	-	-	-	-
Long-term provisions	168	240	-	-	-	-	-	-
Deferred tax liabilities	54	49	-	-	-	-	-	-
Other non-current liabilities	-	-	-	-	-	-	-	-
total non-current liabilities	**2,481**	**8,782**	**-**	**-**	**-**	**-**	**-**	**-**
Liabilities clarified as held for sale	85	-	-	-	-	-	-	-
TOTAL LIABILITES	**12,376**	**16,471**	**39,591**	**29,591**	**19,591**	**12,591**	**12,591**	**12,591**
Share capital	2,511	3,873	3,873	3,873	3,873	3,873	3,873	3,873
Share premium account	58,249	58,012	60,005	63,005	66,005	69,005	72,005	75,005
Own shares	(178)	(174)	(174)	(174)	(174)	(174)	(174)	(174)
Other reserves	(2,820)	(3,306)	(3,306)	(3,306)	(3,306)	(3,306)	(3,306)	(3,306)
Equity reserve	422	401	401	401	401	401	401	401
Retained earnings	(38,046)	(44,212)	136,081	318,835	383,350	428,856	479,871	535,897
TOTAL EQUITY	**20,138**	**14,594**	**196,880**	**382,634**	**450,149**	**498,655**	**552,670**	**611,696**
TOTAL EQUITY+LIABILITIES	**32,514**	**31,065**	**236,471**	**412,225**	**469,740**	**511,246**	**565,261**	**624,287**

Source: SP Angel forecasts

Key risks

Competition

Diagnostics for COVID-19 is becoming an increasingly crowded market. Companies operating within the sector are subject to competitive forces that may result in price discounting. Better resourced competitors and new companies with alternative technologies may be able to devote more time and capital towards the R&D process, which, in turn, could lead to scientific and/or technological breakthroughs that may materially alter the outlook or focus for markets in which the Group operates.

Product development

New products and services which rely on R&D output will be required to drive future growth, such as Primerdesign's focus on transferring assays from RUO to clinical CE-IVD products. The development of such additional diagnostic testing products and services may take longer than expected or not be successful at all, which may adversely impact the Group's ability to generate revenues and achieve sustainable profitability. In addition, the value of additional diagnostics tests and products may not prove as robust as currently envisaged by the Group.

Regulatory environment

Novacyt's products are subject to various laws, regulations and standards in each of the jurisdictions in which products are manufactured and distributed. These laws, regulations and standards may change and if the Group fails to meet those regulatory or other requirements, it could face delays or prohibitions on the operation of its business. The Group's ability to conduct business is predicated on being in compliance with all licence requirements as specified by each relevant jurisdiction. The Group may not continue to hold all of the necessary consents, approvals and licences required to conduct its business, and where new permissions are required, these may be delayed or not forthcoming. If any new approvals or licences are required in order for the Group to carry on its business, the Group could face delays or prohibitions on the development, manufacture, sale or distribution of its products, which may have a material adverse effect on the Group's business, financial condition, capital resources, results and/or future operations.

New IVDR regulations

The European IVD industry is undergoing a significant regulatory transition from the existing In-vitro Diagnostic Directive (IVDD) (98/79/EC) to a new In-vitro Diagnostic Regulation (IVDR) (2017/746). The cumulative effect of the introduction of the new regulation will be a significantly increased burden on the resources of IVD manufacturers to maintain regulatory compliance and this could result in older products being deleted due to costs or products being wasted due to new classifications. It is not certain how the IVDR will apply to the UK as it is due to come into effect in 2022, after the UK is due to leave the EU.

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Key Management

James Wakefield: Independent Non-executive Chairman

James is an experienced private equity investor, having spent over 30 years in the finance industry. He has been involved with over 50 businesses of varying sizes and stages of development across a wide range of sectors, including board representation as Chairman or Non-Executive Director in a number of these. He is also Chairman of WestBridge Capital LLP of which he was a founder partner in 2008. He previously spent 18 years at Bridgepoint (previously NatWest Equity Partners) and prior to that, spent 4 years at NatWest Markets/NatWest Investment Bank. He has been a Non-Executive Director and Chairman of the Novacyt Group since 2014 and is also Chairman of the Nomination Committee. James is a graduate of Harvard Business School (AMP).

Graham Mullis: Chief Executive Officer

Graham was appointed Chief Executive Officer of Novacyt in 2014, having previously been Chief Executive Officer of Lab21 since 2008. He has over 30 years of experience in the diagnostics, pharmaceuticals and medical device markets. Over the years, he has led and been involved in multiple successful exits, including that of Biocompatibles Eyecare, ClearLab International and VisionTec and Lab21. He also founded a pharmaceutical licensing company called Optivue which focuses on repurposed drugs. Previous roles have included acting as a C-level Executive with Biocompatibles International plc, a FTSE 250 company, and 1-800 CONTACTS, a NASDAQ-listed company. He holds degrees in BSc Biochemistry & Physiology from Southampton University, United Kingdom and an MBA in Business Administration from Warwick Business School, United Kingdom.

Anthony Dyer: Chief Financial Officer and Company Secretary

Anthony joined the Group in 2010 and has been Chief Financial Officer since January 2017. He has 20 years of experience in healthcare, pharmaceuticals and medical devices, working primarily with growth companies and executing capital raising and M&A. Transactions executed include Novacyt's acquisition of Primerdesign, BioFocus' combination with Galapagos and Galapagos' €130 million divestment of its service division to Charles River Laboratories. He holds a BSc (Hons) degree in Maths and Management Science from University of East Anglia, United Kingdom. He is a Fellow of the Association of Chartered Certified Accountants (FCCA).

Andrew Heath: MD, PhD Independent Senior Non-Executive Director

Andrew is a healthcare and biopharmaceutical Executive with in-depth knowledge of the US and UK capital markets, with international experience in marketing, sales, R&D and business development. In addition to his role as Non-Executive Director for Novacyt since 2015, he is currently Non-Executive Director of Oxford Biomedica plc and Chairman of TauC3 Biologics Ltd. He served as Chairman of Shield Therapeutics plc from 2016 to 2018. From 1999-2008 Andrew was the Chief Executive Officer of Protherics plc, taking the company from 30 to 350 members of staff and managing its eventual acquisition by BTG plc for £220 million. Prior to this, he served as Vice President of

marketing and sales for Astra Inc in the US and worked within clinical and academic medicine at Vanderbilt University. He is also a former Director of The BioIndustry Association. He graduated in medicine from University of Gothenburg, Sweden, where he also completed his doctoral thesis in human toxicology. He is a fellow of the American Academy of Clinical Toxicology and a fellow of the UK Institute of Directors (IOD). Andrew is Chairman of the Remuneration Committee, and a member of the Audit and Nomination Committees.

Edwin Snape PhD: Independent Non-Executive Director

Ed has over 40 years of experience in founding, investing in and guiding the development of many public and private healthcare and specialty materials companies. He was a founder of NMT Capital (a successor of Nexus) and continues to serve as one of its Senior Advisers. He is also a Senior Adviser to Maruho Co., Ltd. Prior to NMT Capital, Ed was Managing General Partner of The Vista Group, at the time a leading east coast venture capital firm, Chairman of Orien Ventures, a private equity firm with Pacific Rim affiliations and a Director of the Cygnus Funds, two UK-based private equity firms that specialised in investments throughout Europe. He was also a Founder of a fund based in Indonesia. Early in his career, he founded the Liposome Company, which listed and was later sold to Elan Corporation for over $500 million. Over the years, he has been a recipient of several awards in the material sciences industry, including the AB Campbell Award and the Hunt Silver Medal. He also holds several patents in the advanced materials field where he has pioneered various technological innovations and authored numerous technical papers. He holds BSc and PhD degrees in Metallurgy from Leeds University, United Kingdom. Ed is a member of the Remuneration Committee.

Jean-Pierre Crinelli: Independent Non-Executive Director

Jean-Pierre is one of Novacyt's founders having established the business in July 2006. He has some 30 years of experience in the car and electrical components industry, with various roles in M&A and business restructuring. During this period, he was located for 10 years to Singapore, North America, Belgium and Italy. He holds a Diplôme from ESC Le Havre (business school, France) and a DECS (Diplôme d'Etudes Comptable Supérieures, national diploma). Jean-Pierre is a member of the Audit Committee.

Juliet Thompson: Independent Non-Executive Director

Juliet has 20 years of experience working as an investment banker and strategic adviser to healthcare companies in Europe. She has built a strong track record of advising companies on corporate strategy, equity and debt fundraisings and international M&A. Her experience includes senior roles (Managing Director, Head of Corporate Finance and Partner) at Stifel Financial Corp, Nomura Code Securities and WestLB Panmure. Juliet also sits on the Board of Vectura, an industry-leading device and formulation business for inhaled products. She is a member of the Institute of Chartered Accountants in England and Wales (ACA) and holds a BSc degree in Economics from the University of Bristol, United Kingdom. Juliet is Chairman of the Audit Committee and is a member of the Remuneration and Nomination Committee.

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Recommendations are based on a 12-month time horizon as follows:

Buy - Expected return >15%
Hold - Expected return range -15% to +15%
Sell - Expected return < 15%

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