



Light at the end of the tunnel

With regulatory approval on the anvil, Achiko (SWX: ACHI) is poised to launch AptameX, its novel diagnostic test (erstwhile Project Gumnuts), in Indonesia in Q3 2021. Achiko has also successfully integrated its payments and billing app, Teman Sehat, with AptameX. We believe that the commercialisation journey is in its final lap and these two pillar technologies together will grant people with a digital health passport, allowing them to safely travel and work in a COVID world. Further, reports suggest that COVID-19 might become an endemic and it is here to stay due to the abrupt emergence of variants. Thus, COVID-19 is likely to continue to be a significant opportunity for Achiko which provides a unique solution for nations with huge population.

Indonesian JV in full swing

In May 2021, Achiko initiated shipment of AptameX to Indonesia post the production of the first 1,000 AptameX test kits. This marks a critical milestone in the company's commercialisation journey, after Achiko's joint venture (JV) partner PT Indonesia Farma Medis (IFM) received its distribution certificate for AptameX in Indonesia. In our view, Achiko has developed the testing technology on a low-cost platform which is essential and viable for mass-testing purposes. Achiko is well-positioned to capitalise on the strong revenue growth prospects as the management estimates to reach 2-5% of Indonesia's population (~5-15m) by end-2021.

Promising test results and management changes

Achiko has been exhibiting encouraging test results with superior sensitivity of 77% vs. other tests. We also believe that the key changes to the leadership team are positive moves that will accelerate the commercialisation plans, regulatory approvals and expansion plans beyond Indonesia.

Valuation of CHF 0.61–1.01 per share

We continue to expect strong upside potential for Achiko, with the latest valuation of CHF 0.61–1.01 per share that has been computed using probability weighted DCF methodology. The proposed ramp-up plan in Indonesia and regulatory approvals in Europe will support re-rating of this stock. Key risks include: 1) regulatory delays; 2) lower-than-expected adoption; and 3) funding challenges.

Share Price: CHF 0.20

SWX: ACHI

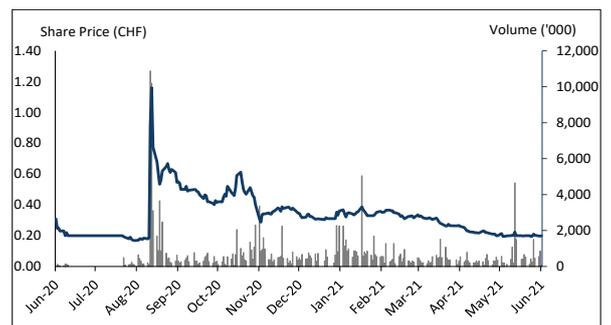
Sector: Technology

10 June 2021

Market Cap. (CHF m)	22.9
# shares outstanding (m)	114.6
# shares fully diluted (m)	128.0
Market Cap Ful. Dil. (CHF m)	25.6
Free Float	79.1%
52-week high/low (CHF)	1.16 / 0.17
Avg. 12M daily volume ('000)	625.2
Website	www.achiko.com

Source: Company, Pitt Street Research

Share price (CHF) and avg. daily volume (k, r.h.s.)



Source: Refinitiv Eikon, Pitt Street Research

Valuation metrics	
DCF fair valuation range (CHF)	0.61–1.01
Discount rate	16%
Assumed terminal growth rate	None

Source: Pitt Street Research

Analysts: Stuart Roberts, Cheng Ge

Tel: +61 (0)447 247 909

stuart.roberts@pittstreetresearch.com

cheng.ge@pittstreetresearch.com



Table of Contents

COVID-19 could become an endemic	3
AptameX's testing results are promising	4
<i>Frequency far more important than sensitivity</i>	5
<i>CT value has a strong correlation with cultivable virus</i>	5
<i>2021 has turned out to be year of COVID-19 variants</i>	6
<i>Several firms looking at breath test to detect COVID</i>	6
Low price and high sensitivity provides benefits to Achiko	6
AptameX rollout on the anvil in Indonesia	6
<i>Temam Sehat successfully integrated with AptameX</i>	7
<i>Mass testing closer to reality</i>	7
<i>Abundance of opportunities in its key market, Indonesia</i>	8
<i>Expanding global footprint</i>	8
Capital requirement emerges as company approaches production ramp-up	8
Key changes strengthen top management	9
Reiterating valuation range	10
Key risks	10
Analyst Qualifications	11
General advice warning, Disclaimer & Disclosures	12



COVID-19 could become an endemic

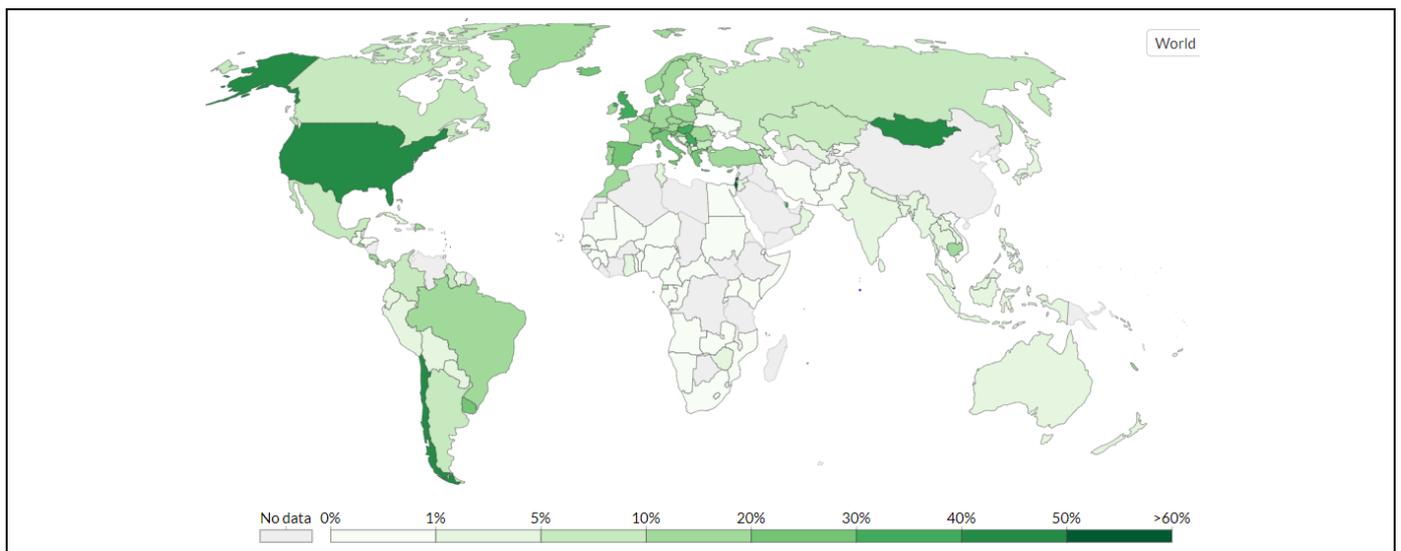
While the vaccination programme for COVID-19 is in full swing across the globe and several countries have tightened the grip on its spread, the **fight against the virus is far from over**. In a recent survey conducted by *Nature*, the leading international weekly journal of science, 89% of immunologists, infectious disease researchers and virologists believed that SARS-CoV-2 will become an endemic, i.e., it will continue to circulate in pockets of the globe for several years¹. The vaccination campaign started in the end of December 2020 and according to 'Our World in Data', which compiles official government data for COVID-19 related information, over two billion doses have been administered as on 1 June 2021. Six months after the vaccination programme started, only 10.9% of the global population has received at least one dose of the vaccine and a mere 5.9% have been fully vaccinated. According to Achiko's management, "there are spots of successful vaccination, but getting to 20% to 30% of the planet (vaccinated) will take years".

South Asian and Middle Eastern countries have less than 4% of their population fully vaccinated against COVID-19

Only a handful of nations have at least 30% vaccine coverage, mostly developed countries. The disparity in vaccine proliferation between developed nations and rest of the world is significant. South Asian and Middle Eastern countries, which are key markets for Achiko, are behind the curve in terms of vaccine coverage (not more than 4% coverage) compared with the global average (Figure 1). Vaccine proliferation will be much slower in these markets, subsequently slowing down the process of herd immunity, compared with their developed peers owing to limited government resources and large population (~30% of global human population²) that exists in the regions. Low vaccine penetration combined with shortage of proper health infrastructure and antibody-resistant virus mutations make these regions prime target for COVID-19 to thrive as an endemic. Although it is difficult to accurately predict, **Achiko expects it to take anywhere between 2-10 years for COVID-19 to be genuinely over**, especially with the continuous emergence of more complex variants.

With the advent of various mutants, COVID-19 has become more complex

Figure 1: Share population fully vaccinated (both doses) against COVID-19 as on 1 June 2021



Source: Our World in Data

¹ <https://www.nature.com/articles/d41586-021-00396-2>.
² The World Bank.



Experts believe there is a high chance that COVID-19 will exist in small pockets around the world

New antibody-resistant variant can re-enter human body and trigger a new wave of COVID-19 infection

AptameX delivers sensitivity of 77% at a high industry CT score of 28.3, comparable to current lateral flow rapid tests (RT-PCR)

Smallpox eradication took over 200 years

The first smallpox immunisation was administered in 1796 and it took nearly 200 years to completely eradicate the disease. Taking hints from smallpox, COVID-19, also requires a global vaccination programme and it will take several years (if not decades) to be completely eradicated. Consequently, 52% of the experts believe, it is highly unlikely (35% unlikely; 17% very unlikely) that COVID-19 will eradicate completely from some regions.³

Through adequate coverage of vaccination programme as well as herd immunity, some regions might achieve zero coronavirus cases. The virus is likely to stick around just like common cold and its impact on humans will be much less severe than in the past, but complete eradication will take a lot of time.

Taking hint from other coronaviruses

Research has been conducted on four endemic coronaviruses (HCoV-OC43, HCoV-HKU1, HCoV-229E and HCoV-N63), which have been circulating in humans for hundreds of years and two of them are the cause of 15% of respiratory infections. Although the reinfection is difficult to block entirely but, the intensity of the impact these viruses have on human immune system gradually diminishes to a point where its severity is relatively low to mild. Based on the behaviour of other viruses like influenza and four previously known coronaviruses, it suggests that Covid-19 will take a similar path. Over a period its effect on humans will gradually tone down due to the combination of vaccinations and immunity developed as a result of virus exposure.

In the case of COVID-19, a recovered patient develops antibodies, which help block reinfection. But the retention of such antibodies lasts for six to eight months, after which their numbers start to decline. Recovered patients also develop two important memory cells, B-cells and T-cells. B-cells are memory cells that can produce antibodies if a new infection arises and T-cells target viruses that have entered the body. Although T-cells target viruses, they respond only once the virus has arrived in the body. A person may feel low to mild sickness during this T-cell response. Further, it is unclear how antibodies and T-cells respond to coronavirus mutations. Certain mutations can escape cell identification and overpower the immune system response. Situations similar to this can reintroduce a new antibody-resistant variant in the human population and trigger a new wave of COVID-19 infections.

AptameX's testing results are promising

Achiko exhibited encouraging results with the testing of AptameX delivered 77% sensitivity as against RT-PCR results with a mean industry cycle threshold (CT⁴) score of 28.3 (95% Confidence Interval: 75.94 – 79.24). Notably, these numbers are comparable to all lateral flow testing kits available in the market. The Abbott test had sensitivity of 68% as against PCR results with a CT score of 24. In our view, these superior results augur well for Achiko at a juncture when it is poised for production of AptameX.

However, it still remains a challenge for Achiko to maintain the efficacy of tests with higher sensitivity while keeping the cost low (Figure 2), at less than a cup of coffee, so that the tests can be conducted daily for mass/vertical

³ <https://www.nature.com/articles/d41586-021-00396-2>.

⁴ Scientifically, a CT value signals the number of cycles for a sample to go through to amplify and bring up the viral DNA to a traceable level.



markets. Achiko expects that the results would improve as it sets towards production and commercial availability by early Q3 2021^{5,6}.

Figure 2: Comparison of COVID testing technologies

Particulars	Molecular	Antigen/Enzyme	Physical	Project Gumnuts
<i>Technology</i>	RT-PCR	Rapid Tests	Mass Spectrometer	DNA Aptamer
<i>Description</i>	Molecular approaches amplify the presence of an RNA to a point of detection	Trained antibody/enzyme, to recognise the COVID-19 protein, typically on an Lateral Flow Assay (LFA)	Identify the COVID-19 particle through mass spectrometry, trained with AI/ML	Synthetic strand of DNA as a probe, initially used in a colorimetric assay, read with a UV Spectrophotometer
<i>Customer Experience</i>	Typically Nasal Swab	Typically Nasal/Oral Swab. Some Saliva	Typically Breathalyzer	Fast minty mouthwash. Close to an existing dental protocol
<i>How reagents are made</i>	Synthetic but expensive, and typically expensive hardware	Animals or Cell lines/ synthetic	N/A	Synthetic
<i>Supply Chain</i>	Very Limited	Limited	Unlimited	Unlimited
<i>Accuracy/Time</i>	High ⁷	Medium to High ⁷	Low to Medium ⁸	Medium to High
<i>Cost</i>	\$60 to \$300	\$2 to \$10 (median around \$5)	\$1 per test plus expensive hardware	\$1.00 to \$5 per test ⁷

Source: Company

Frequency far more important than sensitivity

According to a research paper published recently⁹, test frequency and turnaround time are more effective parameters for COVID-19 screening. The paper highlights that effective screening depends mainly on frequency of testing and the speed of reporting, and is only marginally improved by high test sensitivity. We believe, this finding bodes well for Achiko's offering as it aims to test users 3 to 5 times per month.

CT value has a strong correlation with cultivable virus

As per the research paper published in Eurosurveillance in August 2020¹⁰, RT-PCR CT values have a strong correlation with cultivable virus, which can be used as a proxy for infectiousness. The paper highlights that the probability of culturing virus declines to 8% in samples with CT >35 and to 6% after 10 days of symptom onset. It also depicts that asymptomatic and

⁵ <https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2020.25.32.2001483>.

⁶ G.C.K. Mak et al: J. of Clin. Virology; Vol 134, January 2021, 104712.

⁷ <https://www.health.harvard.edu/blog/which-test-is-best-for-covid-19-2020081020734>; <https://www.fda.gov/consumers/consumer-updates/coronavirusdisease-2019-testing-basics>; <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7361438/>.

⁸ [https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370\(20\)30353-9/fulltext](https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(20)30353-9/fulltext).

⁹ <https://advances.sciencemag.org/content/7/1/eabd5393>.

¹⁰ <https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2020.25.32.2001483>.



presymptomatic persons represent a source of infectious virus. With Achiko having higher sensitivity to a PCR test CT of 28.3 +/- 3 provides it an advantage over other similar available tests.

2021 has turned out to be year of COVID-19 variants

During the first half of 2021, several fast-spreading COVID-variants were detected and scientists are tracking these genomic changes. Notably, an effective surveillance mechanism is the sequencing and sharing of sufficient genomes to track mutations and variants of concern as they arise.

Recently, the US Center for Disease Control (CDC) released the guidance⁸¹¹ which applies to samples sent for genomic sequencing, a technique deployed to obtain the genetic sequence of the virus. As per CDC guidance, "for cases with a known RT-PCR CT value, submit only specimens with CT value ≤ 28 to CDC for sequencing." This genomic sequencing technique aids scientists in finding out the virus' lineage and identifying variants.

Several firms looking at breath test to detect COVID

There are several companies looking at breath tests to detect the coronavirus disease. Breathonix's SpiroNose test aims to detect the coronavirus disease by replacing the nose swab with breathing out into a tube. Similarly, Grey Innovation, an Australian firm, highlights that it has developed a 3-minute COVID-19 breath test which aims to improve on current rapid tests by showing the level of infectivity. However, there remains concerns about the accuracy and reliability of these tests. In February 2021, Dutch regional health boards stopped using SpiroNose test owing to a number of incorrect results reported in the Amsterdam region¹².

Low price and high sensitivity provides benefits to Achiko

From Achiko's perspective, low price and higher sensitivity will provide it the biggest advantages. For testing to be an effective prophylactic, the sensitivity needs to go up, and the price point needs to be less than the cost of a food court lunch. This is an undeclared pre-requisite for carrying out the testing at least once a week. Anything more expensive and relatively less sensitive will make the entire process of mass testing ineffective. Being able to do an ultra-low cost test and with a sensitivity result at the high PCR CT score is a significant advantage for Achiko.

AptameX rollout on the anvil in Indonesia

In May 2021, Achiko initiated shipment of AptameX, the novel diagnostic test (erstwhile Project Gumnuts), to Indonesia post the production of the first 1,000 AptameX test kits. In our view, this shipment marks a critical milestone for the company as it accelerates the commercialisation journey. Furthermore, Achiko's joint venture (JV) partner, PT Indonesia Farma Medis (IFM), received a distribution certificate on 29 April 2021 for AptameX in Indonesia. This marks Achiko's steady progress with product registration and final validation trials which is expected to ensure full test kit availability in early Q3 2021 (Figure 3). Achiko's partner IFM is undertaking the initial rollout of AptameX and the mobile app Teman Sehat in Indonesia. **Through the JV,**

During the first half of 2021, several fast-spreading variants have been detected frequently

Achiko completes initial shipment of AptameX to Indonesia in May 2021

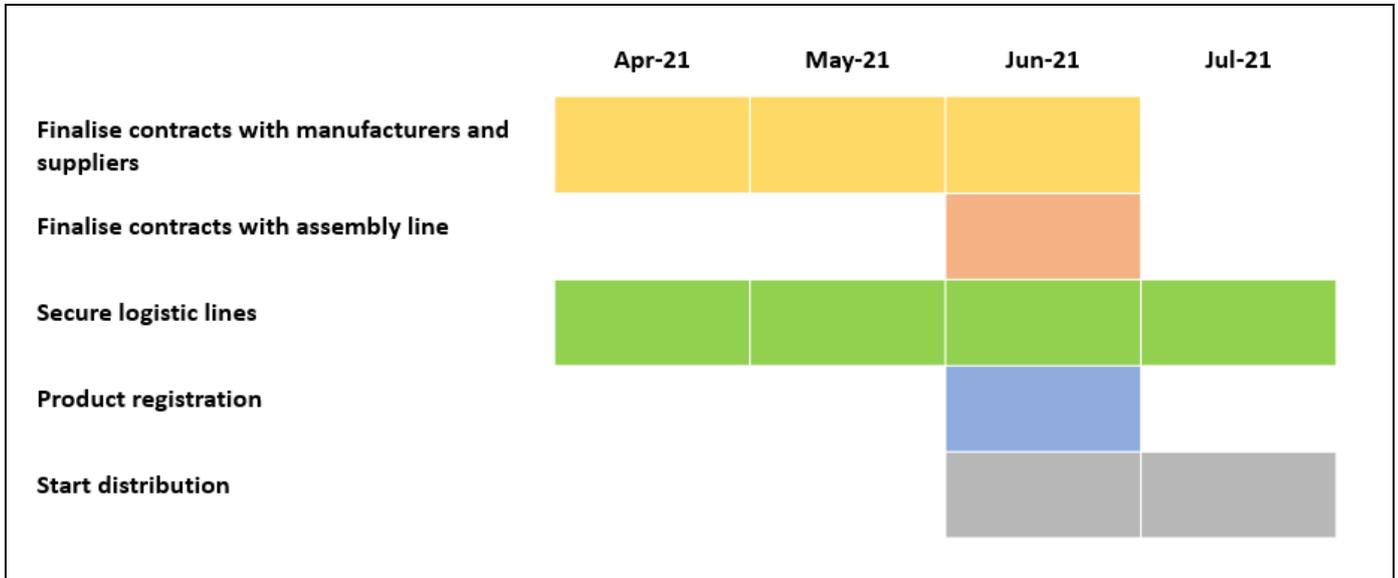
¹¹ <https://www.zerohedge.com/covid-19/caught-red-handed-cdc-changes-test-thresholds-virtually-eliminate-new-covid-cases-among>.

¹² <https://www.dutchnews.nl/news/2021/02/coronavirus-breath-testing-stopped-after-several-false-negatives-rtl/>.



Achiko is expected to earn a profit share corresponding to its 50% holding along with a 10% royalty.

Figure 3: Shipment of AptameX to Indonesia by early Q3



Source: Company

Teman Sehat successfully integrated with AptameX

Teman Sehat and AptameX are two pillars, on which Achiko’s business operations stands. Teman Sehat is a payments and billing app through which users can manage their COVID-19 testing experience. This is complimentary to AptameX, its low-cost, saliva-based rapid diagnostic test kit, for the detection of bacteria and viruses. Collectively, these products grant people with a digital health passport, allowing them to safely travel and work in a COVID world.

After being launched in July 2020, the current user base of Teman Sehat has crossed 0.25m. Of late, Achiko announced that Teman Sehat has been successfully integrated with AptameX. Subscribers receive their result on the Teman Sehat app within 15 minutes. Consequently, this can be used as a health pass facilitating subscribers entry into various locations. Test sites such as hospitals, clinics, offices and airports are expected to operate Teman Sehat in conjunction with AptameX. The entire testing process from booking through testing to diagnosis can be managed through a PC/mobile device in a one-stop shop format. Notably, Achiko’s prior knowledge of the application programming interface (API) aided the development of Teman Sehat. The open API of Teman Sehat also permits third-party tests to be integrated. Achiko, a disruptive Testing as a Service (TaaS) provider, plans to integrate Teman Sehat with other enterprise/security systems. This is expected to expand Teman Sehat’s usability, diversifying Achiko’s revenue stream.

Mass testing closer to reality

It is worthwhile to mention that Achiko’s two-pillar technology sets it apart from peers. In our view, once these technologies receive an approval, mass testing could be a reality. The management expects that their DNA aptamer-based tests can come in at a price point as low as US\$1.5-3.0 per test, making it possible to scale almost indefinitely. Further, its speed is comparable to

Teman Sehat has been successfully integrated with AptameX in June 2021



conventional lateral flow diagnostic, with results to be obtained in minutes. Thus, Achiko has developed the testing technology and platform that are essential and viable for mass testing purposes. We believe that these technologies provide an extraordinary solution which would aid in better containment of COVID-19 and a return to normalcy.

Abundance of opportunities in its key market, Indonesia

Indonesia remains a significant and natural early market for Achiko’s COVID-19 products, with a population of over 270 million people, where the COVID curve is yet to flatten. The management estimates to reach 2-5% of Indonesia’s population by end-2021. A 3-5 tests per person per month potentially equates to 15-25 million tests per month in Indonesia alone. Hence, Achiko is well-positioned to capitalise on the strong revenue growth prospects, generating an initial revenue stream of US\$25–75m a month in Indonesia. The management plans to focus on key verticals including food processing, public transport, private transport, workplaces, communities, resorts, shipping, etc. and then turn Teman Sehat into a service.

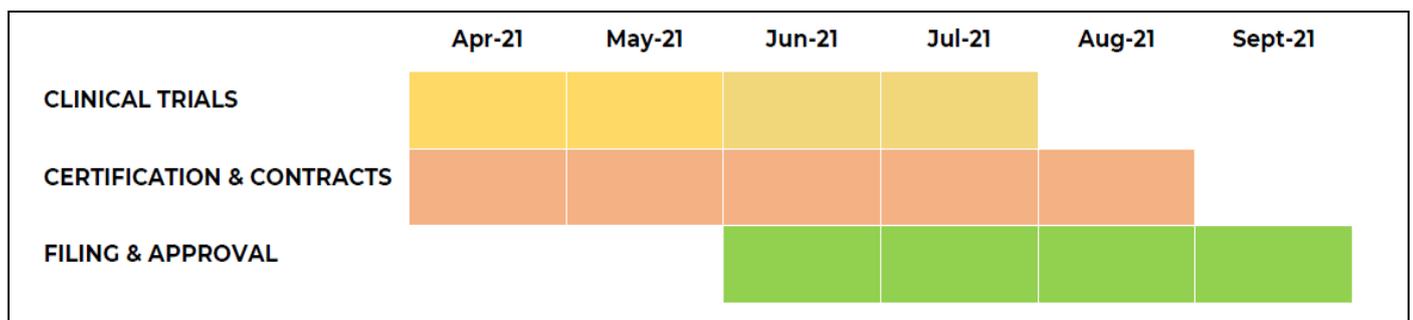
Achiko expects to cover 2-5% of Indonesia’s population by end-2021

Expanding global footprint

Besides Indonesia, the company is targeting to expand its market footprint. It is eyeing to obtain a European CE Mark by Q3 2021 (Figure 4). Upon successful CE mark registration, Achiko can ramp up commercialisation efforts in around the globe. It is expecting additional demand from India, Nepal, the Middle East, Africa and the Americas. Interest from other markets has also been received which should keep the pipeline for Achiko quite busy in 2021. Any amount of sales from these new locations will make Achiko significantly profitable.

Achiko is eyeing to obtain a European CE Mark by Q3 2021

Figure 4: To gain CE Mark for AptameX by Q3 2021



Source: Company

Capital requirement emerges as company approaches production ramp-up

Achiko has steadily pivoted away from its previous financial services business and is positioning itself as a medical technology provider. A substantial amount of capital has gone into facilitating this paradigm shift. Recently, the company has announced the completion of a loan agreement with Negma Group. The transaction involved subordinated convertible loans worth CHF900,000 against an issuance of 1.5 million warrants at an exercise price of CHF0.35. This new agreement essentially replaces the previous convertible loan agreement with Negma Group.

Achiko has raised CHF900,000 from Negma Group in the form of convertible loan



Further, the management has raised capital from the market on multiple occasions in 2020 to bolster the investible corpus to smoothen its transition towards a medical technology firm. It successfully secured convertible loan facility with Yorkville Advisors Global LP, a US-based fund manager. The facility provided capital of US\$2.5m with an extension option of up to US\$9.5m. These funds will go towards development of the mobile app (Teman Sehat), expansion of the diagnostic technology (Project Gumnuts) and ramping up of production capabilities.

Key changes strengthen top management

Achiko introduced some key changes to its leadership team with the aim of positioning themselves as leaders in diagnostics. Dr. Morris S. Berrie has been hired as President and Robert Rieder as the new CFO. These two additions along with other new hires in the top management strengthens the commercialisation plans for the firm.

- **Dr. Morris S. Berrie** is a researcher and entrepreneur in the biotechnology domain. Dr. Berrie has over 20 years of experience in scientific research and business management in the biotechnology and healthcare industries. He is the Co-Founder/Chairman of TTS Global Initiative which facilitates deal flows in early stage start-ups and small and medium enterprises in the biotech space. He also served as CEO and Editor-in-Chief at Biotechnology Investment Group. He holds a PhD in Organic Chemistry from Imperial College, London and was the recipient of a European DG Post-Doctoral Fellowship.
- **Robert Rieder** has over 20 years of experience in start-ups as well as fast growing companies in the biotech and medtech domain. His extensive knowledge in cost accounting, budgeting, forecasting, financial planning and analysis should prove beneficial for the firm going forward. He replaces the interim CFO, Ruediger Petrikowski. Previously, he was the CFO at emonitor AG, a technology start-up focused on real estate sector and based in Zurich, Switzerland. He has held several important leadership positions such as Director of Finance and Operations and Head of Finance at Bachem Group AG and Financial Controller at Abzena plc. His brief stint as CEO at Rieder Enterprises provided direct exposure to start-ups and small and medium enterprises where he provided consultation to such firms.
- **Charles Pan** has been appointed as a member of the Advisory Board and will be based in Taiwan. He brings 25 yrs of experience in M&A, strategic investment, start-up management and ecosystem development for East Asia. Previously he had spent several years in venture capital and private equity in Greater China and the US and was a former investment banker at Lehman Brothers. Achiko expects to achieve significant levels of scale due to Charles' ex-FIH relationships

Achiko's management team now supports its expansion plan with Dr. Morris Berrie in the UK/Europe, and Charles Pan in Taiwan/Asia. As Achiko consolidates its research and commercialisation, both geographies have the required leadership and ecosystem to expand swiftly.



Reiterating valuation range

Achiko's growth prospects remain strong on the back accelerated rollout of AptameX. Management is gearing for the next stage of commercialisation and has been securing funds to facilitate the process. On 11th December, 2020 it successfully increased its share capital by 3.03 million shares.

We have revised our valuation assumptions based on the latest information on price per test and relative market share to accurately reflect the future business environment for Achiko. Despite these changes, the revised valuation has not changed significantly since the previous update in February 2021. The latest valuation stands at CHF0.61 and CHF1.01 in the base and bull case, respectively (Figure 5). After the recent volatility in the share price, our analysis suggests that Achiko's share price offers enormous upside in both the base case (205%) and bull case (406%).

Figure 5: DCF valuation summary

AptameX & Teman Sehat Valuation	Base Case	Bull Case
NPV (US\$M)	131	200
Risk Factor	60%	65%
rNPV (US\$M)	79	130
CHF/USD	0.89	0.89
rNPV (CHF M)	70	116
Shares outstanding (M)	114.6	114.6
Implied Price (CHF)	0.61	1.01
Current Price (CHF)	0.20	0.20
<i>Upside (%)</i>	<i>205%</i>	<i>406%</i>

Source: Pitt Street Research

Key risks

Following are the risks associated with Achiko:

- **Regulatory clearances** are needed before Achiko's diagnostic device, AptameX, can be commercialised. There is a possibility for AptameX to not be granted approval despite internal testing showing positive result for the device.
- The firm **lacks diversity in its offerings** and target market given that its products are geared towards the detection of coronavirus. This is a concern in the long term as global vaccination programmes and herd immunity may reduce the severity of the virus on humans.
- **Competition from other firms and new technologies** is always a possibility. Some firms are experimenting with alternative methods for diagnostics, including breath test for rapid test of infection levels.
- Achiko is at **pre-revenue stage firm** with a product on the brink of commercialisation. It is difficult to accurately predict the cash and revenue generation in the absence of historical financial data.
- Achiko is a publicly traded firm but it may find it **difficult to raise capital**, especially considering it is a pre-revenue firm and relatively new to the med-tech space.
- Although, AptameX offers unique benefits it comes with an **adoption risk** arising from customer hesitation or unsuitable pricing strategy.



Please see <https://www.pittstreetresearch.com/> for our initiating coverage report on Achiko.

Analyst Qualifications

- Stuart Roberts, lead analyst on this report, has been an equities analyst since 2002.
- Stuart obtained a Master of Applied Finance and Investment from the Securities Institute of Australia in 2002. Previously, from the Securities Institute of Australia, he obtained a Certificate of Financial Markets (1994) and a Graduate Diploma in Finance and Investment (1999).
- Stuart joined Southern Cross Equities as an equities analyst in April 2001. From February 2002 to July 2013, his research speciality at Southern Cross Equities and its acquirer, Bell Potter Securities, was Healthcare and Biotechnology. During this time, he covered a variety of established healthcare companies, such as CSL, Cochlear and Resmed, as well as numerous emerging companies. Stuart was a Healthcare and Biotechnology analyst at Baillieu Holst from October 2013 to January 2015.
- After 15 months over 2015–2016 doing Investor Relations for two ASX-listed cancer drug developers, Stuart founded NDF Research in May 2016 to provide issuer-sponsored equity research on ASX-listed Life Sciences companies.
- In July 2016, with Marc Kennis, Stuart co-founded Pitt Street Research Pty Ltd, which provides issuer-sponsored research on ASX-listed companies across the entire market, including Life Sciences companies.
- Since 2018, Stuart has led Pitt Street Research's Resources Sector franchise, spearheading research on both mining and energy companies.

Cheng Ge is an equities research analyst at Pitt Street Research.

- Cheng obtained a B.Com in Finance and LL.B from University of New South Wales, in 2013, and has passed all three levels of the CFA Program.
- Before joining Pitt Street Research, he has worked for several financial services firms in Sydney, where his focus was on financial advice.
- He joined Pitt Street Research in January 2020.

General advice warning, Disclaimer & Disclosures

Terms & Conditions

The information contained herein ("Content") has been prepared and issued by Pitt Street Research Pty Ltd ACN 626365615 ("Pitt Street Research"), an Authorised Representative (no: 1265112) of BR Securities Australia Pty Ltd. ABN 92 168 734 530, AFSL 456663. All intellectual property relating to the Content vests with Pitt Street Research unless otherwise noted.

Disclaimer

Pitt Street Research provides this financial advice as an honest and reasonable opinion held at a point in time about an investment's risk profile and merit and the information is provided by the Pitt Street Research in good faith. The views of the adviser(s) do not necessarily reflect the views of the AFS Licensee. Pitt Street Research has no obligation to update the opinion unless Pitt Street Research is currently contracted to provide such an updated opinion. Pitt Street Research does not warrant the accuracy of any information it sources from others. All statements as to future matters are not guaranteed to be accurate and any statements as to past performance do not represent future performance.

Assessment of risk can be subjective. Portfolios of equity investments need to be well diversified and the risk appropriate for the investor. Equity investments in a listed or unlisted company yet to achieve a profit or with an equity value less than \$50 million should collectively be a small component of an individual investor's equity portfolio, with smaller individual investment sizes than otherwise. Investors are responsible for their own investment decisions, unless a contract stipulates otherwise.

Pitt Street Research does not stand behind the capital value or performance of any investment. Subject to any terms implied by law and which cannot be excluded, Pitt Street Research shall not be liable for any errors, omissions, defects or misrepresentations in the information (including by reasons of negligence, negligent misstatement or otherwise) or for any loss or damage (whether direct or indirect) suffered by persons who use or rely on the information. If any law prohibits the exclusion of such liability, Pitt Street Research limits its liability to the re-supply of the Information, provided that such limitation is permitted by law and is fair and reasonable.

General advice warning

The Content has been prepared for general information purposes only and is not (and cannot be construed or relied upon as) personal advice nor as an offer to buy/sell/subscribe to any of the financial products mentioned herein. No investment objectives, financial circumstances or needs of any individual have been taken into consideration in the preparation of the Content.

Financial products are complex, entail risk of loss, may rise and fall, and are impacted by a range of market and economic factors, and you should always obtain professional advice to ensure trading or investing in such products is suitable for your circumstances, and ensure you obtain, read and understand any applicable offer document.

Disclosures

Pitt Street Research has been commissioned to prepare the Content. From time to time, Pitt Street Research representatives or associates may hold interests, transact or hold directorships in, or perform paid services for, companies mentioned herein. Pitt Street Research and its associates, officers, directors and employees, may, from time to time hold securities in the companies referred to herein and may trade in those securities as principal, and in a manner which may be contrary to recommendations mentioned in this document.

Pitt Street Research receives fees from the company referred to in this document, for research services and other financial services or advice we may provide to that company. The analyst has received assistance from the company in preparing this document. The company has provided the analyst with communication with senior management and information on the company and industry. As part of due diligence, the analyst has independently and critically reviewed the assistance and information provided by the company to form the opinions expressed in the report. Diligent care has been taken by the analyst to maintain an honest and fair objectivity in writing this report and making the recommendation. Where Pitt Street Research has been commissioned to prepare Content and receives fees for its preparation, please note that NO part of the fee, compensation or employee remuneration paid will either directly or indirectly impact the Content provided.