The State of Tech in

AFRICA 2021

www.africarena.com

With the support of

Microsoft

And the co-operation of

ABAN
african business angel network

AVCA
African Private Equity and Venture Capital Association

EAVCA
East Africa Venture Capital Association

SAVCA
SOUTHERN AFRICAN VENTURE CAPITAL AND PRIVATE EQUITY ASSOCIATION

Acknowledgments

A very special thank you to those that contributed to this report:

- Alexia Alexandropoulou **- AVCA**
- Nick Allen **- Savant**
- Maxime Bayen **- Catalyst Fund**
- Amit Bhatti **- 500 Startups**
- Johan Choux **- Proparco**
- Llew Classen **- Newtown Partners**
- Rajiv Daya **- Founders Factory Africa**
- Harry Davies **- Ceniarth**
- Grégoire de Padirac **- Orange Digital Ventures**
- Benjamin Edwin **- Bosch Africa**
- Charlotte Geoffray & Ademidun Edosomwan **- Total Carbon Neutrallity Ventures**
- Zach George & Kashira Naidoo **- Nedbank VC**
- Arthur Ikechukwu Anoke & Daisy Isiaho **- Zuri Health**
- Khaled Ishmail **- HiMangel**
- Tom Jackson **- Disrupt Africa**
- Renier Kriel **- French South African Tech Labs**
- Grace Legodi **- Plug and Play Tech Center**
- Lebogang Madise & Gustavo Raiter **- Microsoft**
- Matthieu Marchand **- Partech**
- Meghan McCormick **- OZÉ**
- Benji Meltzer **- Aerobotics**
- Danai Musandu, Bitta Wycliffe & Mercy Zulu-Hume **- Goodwell Investments**
- Eghosa Omoigui **- EchoVC**
- Emilian Popa **- Ilara Health**
- Marieke Roestenberg **- FMO**
- Satoshi Shinada **- Kepple Africa Ventures**
- Arthur Thuet **- Saviu**
- David Van Dijk **- ABAN**
- Anton van Vlaanderen **- 4Di**
- Vincent Viollain **- Viva Technology**
- Fabian Whate **- Naspers Foundry**

Contents

Foreword

Launched in Cape Town, South Africa in 2017, AfricArena supports the creation of market access and investment opportunities for its ever-increasing community of founders, angels, incubators and accelerators, corporates and Venture Capital (VC) investors. AfricArena produces research content, hosts both digital and in-person events, and operates a digital platform all of which provides over $3m worth of opportunities/exposure to African tech founders.

The AfricArena Tour
Throughout the year, the AfricArena Tour hosts digital and face to face events in the US, Europe, Asia and across Africa, fostering the availability of capital to African tech founders by showcasing the best Seed, Series A and Series B startups.

The AfricArena Summit
At the end of every year, the AfricArena Summit sees founders, corporates and investors gathering in Cape Town; the home of the African tech community, to share ideas, take part in pitches, hear and thought-leaders share their insights, and participate in several collaborative side events such as the AfricArena Founders Boostcamp and AfricArena VC Unconference.

Innovation and ecosystem challenges
All year round, AfricArena and its corporate and institutional partners run +/- 20 open innovation and ecosystem challenges to identify high-potential startups at various maturity levels. Over the past four years companies, having been selected through the tour events to pitch at the AfricArena Summit, have subsequently raised over $220m in funding (see appendix).

Research
Through its Research and Editorial team AfricArena provides knowledge and insights via its weekly content including articles, podcasts and research papers, all of which are available on the AfricArena Wired mobile applications (iOS and Android) and AfricArena.com

Purpose of this report
This AfricArena State of Tech in Africa report, issued annually, aims at providing all interested parties with insights and knowledge about the trends seen in the African tech sector. Its goal is not to add another set of analytics, but rather to add value by telling some of the key stories behind the numbers, and making sense of the underlying trends. We hope this is a valuable read for anyone interested in the developments and potential of the African tech ecosystem.

We constantly strive to learn and improve, so please do not hesitate to engage with us!

Leo Boisnier
Daryn Munnik
Papama Nyati
Christophe Viarnaud

Executive summary

2020 was bound to be a different story: for economies, industries, businesses, and communities around the world. World Bank findings show a 4.3% contraction in the global economy, and Foreign Direct Investment into Africa declined by an estimated 18% in 2020. In parallel to this, the VC market in Africa saw a decline in the total value of deals by 29% according to Partech Research.

Paradoxically, despite the total equity value and overall ticket sizes being diminished in 2020, Africa's startup ecosystem recorded the highest number of deals - an increase of 44% according to Partech. Though, reports on startup funding in the continent differ in methodology, hence the disparities in the numbers. We aim to understand the innovation and investment developments seen in the ecosystem. Data collection is a difficult process for an array of reasons. Undisclosed deals in the continent range from $114 million to $400 million. Some investors choose to be discreet about their deals in order to focus more on returns; other investors announce their deals in order to be known to founders.
In comparison to other global regions, Africa underperforms in VC activity. Africa's top performing market, Nigeria, is an interesting case as it does not appear in the top five countries on the ranking of startups by country of incorporation - many startups that raise capital in Nigeria are not incorporated in the country. As Africa's top ecosystem, Nigeria ranks considerably low in "Ease of doing business". Africa's second

"... highest number of deals - an increase of 44% ..."

largest ecosystem, Kenya, had a $5.80 per capita in VC investment in 2020 - the highest in the continent. Kenya is also a top destination for expats.

Startups in Africa approach investors in two main ways: the "Nigerian way" - incorporating outside of the country, and the "Kenyan way" - whereby they seek capital within their country of incorporation. Markets in Southern Africa are attracting more investments because of lower valuations. The Egyptian market has gained investor traction because of considerable demographic size. There is an increasing need for countries to enact legislation, i.e. "Startup Acts", to make it easier for businesses to incorporate locally, making it easier to start a business as an entrepreneur, but also to start a local investment fund and invest in seed stage businesses from the country.

Early-stage investors much prefer doing due diligence in-person, but struggled to do so in 2020 because of travel restrictions. Nevertheless, investments in early-stage startups were very bullish in 2020, as shown by the numbers of deals which were on the rise, even though their

The big 4:

very different ecosystem models

size was smaller. There is still a need for investors to improve their due diligence process - perhaps through a standardized process - so as to streamline it and make it more “online-friendly”.

Fundraising for GPs during 2020 was largely supported by more flexible LPs, as institutional investors grappled with the changing macroeconomic environment and the lack of ability to do in-person due diligence on GPs. As travel restrictions are lifted and LPs become more at ease with performing due diligence remotely, capital will start flowing to GPs and then entrepreneurs.

The degree to which Africa’s tech innovation and investment landscape has been impacted by the COVID-19 pandemic is a mixed bag of results. On one side, the number of deals have increased; while at the same time, the total value of the equity deals decreased, by the estimates of a few reports. This shows that even though ticket sizes diminished, investment appetite in tech innovation in Africa is high. From a global point of view, Afrca’s tech ecosystem is still miniscule - VCs invested $3.9 Million per day into African startups in 2020; while in the US, startups received VC investment of $428 Million per day.

“... VCs invested $3.9 Million per day into African startups in 2020; while in the US, startups received VC investment of $428 Million per day.”

The main story of 2020 is the sharp increase in the number of deals in the early-stage. Seed stage startups secured 7.5% of the total deal value in 2019, and 22% in 2020. In order to continue this trend of bridging the funding gap, a lot more support is needed. Tech hubs across the continent play an important role in incubating and accelerating innovation - aiming to make early-stage startups investor ready. However, tech hubs themselves are in need of support, whether from government or private sector, in order to have the financial and operational muscle needed to help startups.

All in all, four sectors, collectively, secured more than 60% of all deals in 2020; and five countries, collectively, secured 87% of all deals in 2020 (Partech findings). Nevertheless, in 2020 we saw a better spread than before in the number of sectors and markets receiving funding.

Fintech, once again, captured a quarter of the equity funding - with multiple big deals conducted, including Flutterwave’s astronomical raise and acquisition deals such as DPO and Paystack. Nigerian startups continue to dominate the fintech sector, largely due to fair regulations being put in place by major banks and the large population that remains unbanked and unconnected. Agritech sector grew phenomenally in 2020, with Kenya leading the way, mainly because of massive deals such as the $85 Million raised by GRO

Intelligence, and other big deals in Twiga Foods and Apollo Agriculture.

Healthtech saw a huge uptake in the number of deals, by 115%, across multiple markets. The biggest deal in this secor was a Series D raise of $40 million by Vezeeta. We can expect this sector to continue to grow because of the digital opportunities presented by the pandemic. The energy/off-grid tech sector retained its importance in Africa's economy by securing deals close to $150 million in multiple markets. Africa's energy sector speaks more to impact investors than traditional VCs, and that is a trend we can expect to continue.

When it comes to startup support in Africa, a key player that has the tendency to be missing is the corporate sector. Big deals we have seen between startups and corporates in 2020 show the relevance and importance of corporates in the innovation ecosystem - a practice in which not enough corporates are engaged in. In the first months of the COVID-19 crisis, corporations tended to dramatically reduce their budget in innovation and R&D projects.

There is definitely a need for more corporations to be involved in the startup ecosystem. They can engage with early stage startups through POCs, partnerships, via a tech hub (accelerator or incubator) or equity investment. The preferred way for corporates to engage with early-stage startups remains POCs followed by partnerships. From our observations through running open innovation challenges, frank discussions and objectives must be set by both sides.

> "... secured more than 60% of all deals in 2020; and five countries, collectively, secured 87% of all deals in 2020 ..."

Corporate venture capital has the wind in its sails and sees a growing interest in Africa. Interestingly, the link between the corporate open innovation department and the corporate venture capital is not always clear within the corporate. Corporate VC tends to be more medium to long term in its objectives than traditional VCs.

Based on the AfricArena observations and working with investors across the world, our views are that 2021 will see a substantial surge in deals, accelerating throughout the year. We estimate that investment into tech startups will be between $2.25 and $2.8 billion, making it the best year in the history of tech investment on the continent.

#africarising

INVESTMENT ACTIVITY ON THE AFRICAN CONTINENT IN 2020 - THE IMPACT OF VENTURE CAPITAL

1. Introduction

2020 was a difficult year. The COVID-19 pandemic resulted in significant loss of life across the world. COVID-19 and the various government forced lockdowns impacted every part of society across every business sector, it has resulted in millions of lost lives and millions more will be pushed into poverty. These negative social and economic impacts will likely continue long after the pandemic has been curtailed/controlled.

The World Bank estimates that the global economy contracted by 4.3% in 2020 (measured in real Gross Domestic Product (GDP)), and yet they still forecast a growth of 4% in 2021 and 3.8% in 2022.

However, even with the expectation of growth in 2021 and 2022, the global economy will be more than 5% below pre-pandemic expectations[1]. This is due to the long-lasting negative effects of the pandemic on human and investment capital as well as the possibility of a resurgence of COVID-19 cases and potential lockdowns. The global economy will likely rebound faster with an effective global vaccination roll-out program and continued accommodating monetary policy and diminishing long-term fiscal support.[2]

In Sub-Saharan Africa, GDP output contracted by an estimated 3.7% and per capita income declined by 6.1%[3]. Foreign Direct investment into Africa declined by an estimated 18% to around $38bn from $46bn in 2019[4].

Paradoxically, the value of global VC and tech investment increased in 2020 despite the impact of COVID-19 pandemic. The increase in value was mainly caused by later stage growth deals, while the total number of deals in 2020 for Seed and Angel stage decreased significantly.

The African Story

Bizarrely the African story differed to what happened globally. African VC investment declined by 29% (according to Partech) to $1.43bn in 2020, underperforming the decline in total FDI into the continent. However, the number of total deals on the continent increased significantly, by 44%, as a result the number of seed round deals almost doubled; from 127 to 228 deals.

The view at AfricArena is that "Tech is booming" and global VC flows confirm this. Africa is being overlooked and confirmed by receiving less than 1% of global VC flows

1 World Bank. 2021. Global Economic Prospects, January 2021. Washington, DC: World Bank. doi: 10.1596/978-1-4648-1612-3. License: Creative Commons Attribution CC BY 3.0 IGO.
2 World Bank. 2021. Global Economic Prospects, January 2021. Washington, DC: World Bank. doi: 10.1596/978-1-4648-1612-3. License: Creative Commons Attribution CC BY 3.0 IGO.
3 World Bank. 2021. Global Economic Prospects, January 2021. Washington, DC: World Bank. doi: 10.1596/978-1-4648-1612-3. License: Creative Commons Attribution CC BY 3.0 IGO.
4 UNCTAD, Investment Trends Monitor, Issue 38, January 2021

and through the decline in investment when globally more capital was invested.

In this section of the report we discuss the findings of our indepth research with numerous investors as well as recurring themes around venture capital investing on the continent in the context of the unprecedented year of a global health pandemic.

In this chapter of the report we discuss:

- VC industry findings and undisclosed deals
- The regional distribution of VC flows
- What other impacts did COVID and lockdown have on VC investors operations and actions?
    - Impact on due diligence
    - Impact on portfolio assistance
    - Impact on fundraising

After discussing the general economic figures for 2020 in the introduction, we now discuss the 2020 African VC industry figures in section 2.

"... number of undisclosed deals, with the undisclosed deal values ranging from $115m (calculated from Disrupt Africa's data), $240m (Briter) to $400m (Partech)."

2. Industry findings of VC deal flows

There are a number of reports estimating VC deal flows in Africa. These reports are generally released during the first quarter of the year, and the goal at AfricArena is not to derive our own estimate of VC deal volumes and values, but rather to understand the developments seen in the ecosystem.

There are always differences in the data from firms providing analytics on the African Startup Ecosystem. Each report has a different methodology and definition for an African "tech" startup that accounts for some of the differences in values, the variance of outcomes does not go unnoticed by African focussed investors.

"...So, at a certain point, you take it [the reported numbers] with a pinch of salt, right?" (Nedbank VC)

"Ah, the annual conversation about discrepancies :)" (Disrupt Africa - by email)

However, the data collection process is difficult due to a number of reasons:

- the lack of transparency by investors,
- a lack of willingness to release fundraising information by founders,
- the lack of uniformity across the spectrum of investment stages, sectors and regions.

For this reason there is also sympathy for the data collection process: *"...as we've discussed, it's hard..." [to collect data]* (Naspers Foundry)

The (sometimes stark) differences in VC reported statistics for the continent is shown in the table alongside.

The table indicates that the range of deal values is quite extraordinary; the range is larger than the lowest estimate!

To disclose or not to disclose?

A theme mentioned consistently in the reports is the number of undisclosed deals, with the undisclosed deal values ranging from $115m (calculated from Disrupt Africa's data), $240m (Briter) to $400m (Partech). Assuming the maximum value of undisclosed deals ($285m) was not identified by Disrupt Africa or Weetracker (in the table alongside), then by summing the undisclosed deals with the figures disclosed, puts the estimates in a more reasonable band of between ~$1000 to $1429 (Maxime Bayen's data includes M&A transactions).

The debate around investors releasing announcements for investment deals continues. On the one hand some investors prefer to operate discreetly, flying beneath the radar to identify opportunities before other investors and, according to them, focusing more on investment returns than making deal announcements. This is contrasted by other newly established investors who have used their deals as "advertising" to founders – as an indication of their willingness to provide capital.

One could argue that Kepple Africa Ventures used this strategy to increase the ecosystem's awareness of them as a credible source of capital. This strategy has allowed them to become more discerning or picky as founders now reach out to them for investment, and they have access to high quality startups and deal flow.

Another similar view is that as a nascent market, additional interest and hype is required to foster a level of comfort and trust within the VC industry: *"it's massively beneficial for people to see the momentum and the scale of what we're doing and what we're building. I would love every deal to be announced. Like anything above 5 million (ZAR), it needs to be spoken about. People (founders) need to know, at 5 million or 20 million (ZAR), these are the guys that are investing at that level, I should be talking to them, etc."* (Naspers Foundry)

These sentiments are shared by the OECD and their LEED program:*"High growth firms flourish in distinctive types of supportive entrepreneurial ecosystems. These ecosystems are characterised as being 'information rich'. In these environments individuals can access information and knowledge on new buyer needs, new and evolving technologies, operating or delivery possibilities, component and machine availability, and service and marketing concepts, and thereby can more easily perceive gaps in products, services or suppliers to fill."*
https://www.oecd.org/cfe/leed/Entrepreneurial-ecosystems.pdf

Additionally research has shown that in well-performing ecosystems, the culture of information sharing and inclusiveness is prevalent. For example research on the startup ecosystem in Boulder, Colorado (which has the highest density of high-tech start-ups in the USA) found that: *"It [the region of Boulder] has a philosophy of inclusiveness. An attitude of 'give-before-you-get' is embedded in the startup community, and a culture of widely sharing knowledge, experience and expertise."*
https://www.oecd.org/cfe/leed/Entrepreneurial-ecosystems.pdf

We at AfricArena support open source information as we believe this reduces information asymmetries. In other markets where information asymmetry is a problem,

Africa tech start-ups funding evolution

Source: Maxime Bayen

Total amount raised ($M)	2015	2016	2017	2018	2019	2020
Disrupt Africa	186	129	195	335	491	701
Partech	277	367	560	1,163	2,020	1,429
Weetracker		130	168	726	1,340	757
Briter Bridges		331	438	669	1,119	1,315
Maxime Bayen					1,277	1,615
YoY funding growth (%)	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Disrupt Africa		-31%	51%	71%	47%	43%
Partech		33%	53%	108%	74%	-29%
Weetracker					85%	-44%
Briter Bridges			32%	53%	67%	18%
Maxime Bayen						26%

it is addressed by feedback systems (such as those found in eBay and Amazon) and trustworthy intermediaries (such as by credit card companies)[5]. In the African venture capital market where information asymmetry is pronounced, sharing deal information, in our view, reduces information asymmetry. Investors act as trustworthy intermediaries (based on their investing record and reputation) and provide a feedback system, where feedback is provided if follow-on investments are made.

If this information is not shared with other investors and founders, later-stage investors, who are less informed, would not be aware of this "positive signal" for investments, and founders would not know which investors to approach based on their reputation.

Therefore we support more transparent data and more disclosure of deals. We would also like to urge founders and investors to share the information of deals more widely. Our view is that the number of opportunities and the quality of innovations we encounter at AfricArena is better than the level of investment we have seen the continent receive.
To provide comfort to founders - in the US, it is an SEC requirement for most startups to file a "Form D" to confirm basic details of new equity financing within 15 days of closing their round of financing[6].

Other motivating factors for entrepreneurs to announce their funding rounds include[7]:

- Increased financial stability is key to attract the best talent in the industry, making it easier to persuade others to join your startup
- Creates opportunities to engage other investors for future rounds.
- It signals to your investors, employees and customers that you are[8]:
    - open for business
    - secure financially
    - ready to continue to grow (or at least survive)

Given the constraints on availability of data, we now share insights that we gained from various discussion with VC investors and partners on the continent.

KEY TAKEAWAYS

- Undisclosed deals result in the massive range in deal value estimates for African VC
- AfricArena supports open source data on VC deals in Africa
- The nascent African industry will benefit from increased information and knowledge sharing

5 https://dspace.mit.edu/bitstream/handle/1721.1/103355/Agrawal-2016-Are%20syndicates%20the%20k.pdf?sequence=1&isAllowed=y
6 https://techcrunch.com/2017/09/23/how-to-announce-a-funding-round/
7 https://bothsidesofthetable.com/should-startups-announce-their-funding-3f6ff2b4f2d7
8 https://techcrunch.com/2020/03/18/dont-be-stupid-and-hold-off-on-announcing-your-funding-round/

3. Which regions received more VC investment in 2020?

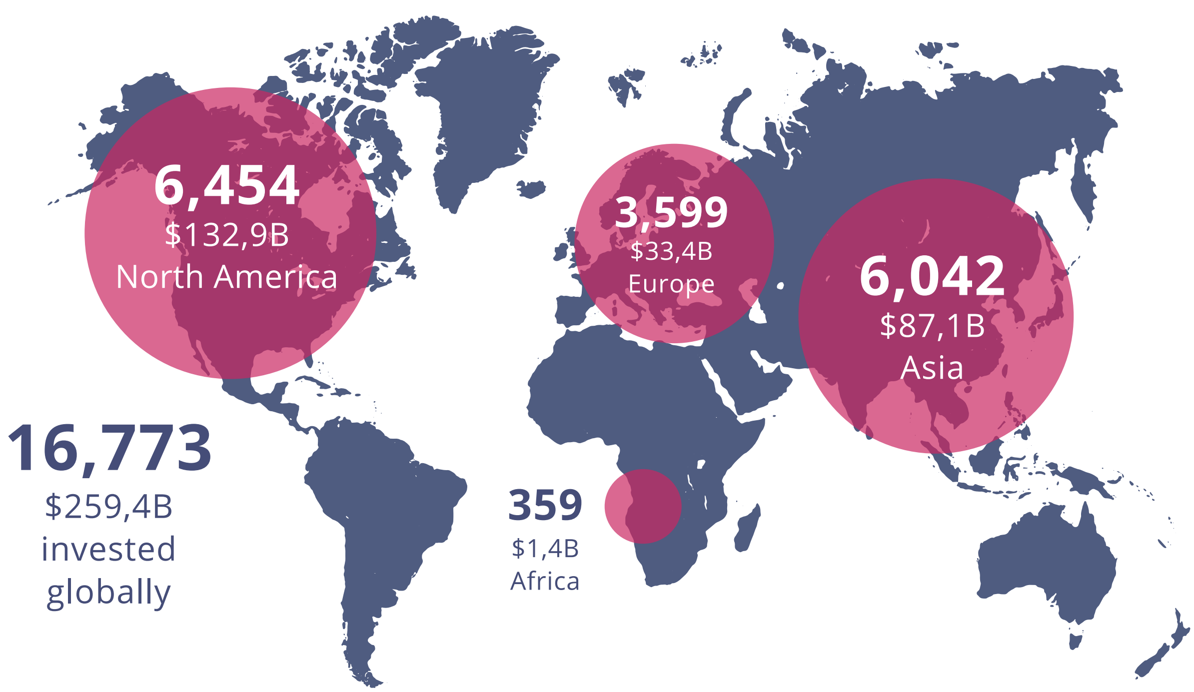
Global VC data values show that Africa as a region significantly underperforms, but even within the continent there are countries which significantly outperform others. According to the Partech report, Nigerian startups received the most investment in 2020 at a total value of \$307m in 71 deals, and an average deal size of \$4,3m. This is 59% lower than the \$747m invested in 38 deals at an average of \$19,7m in 2019.

In 2019 Nigeria also received the most investment in terms of value. In fact the top four countries remained the same in terms of value invested in the same rank: Nigeria, Kenya, Egypt and South Africa.

The investment into Nigeria is interesting as, according to the Briter report, (as cited by TechCrunch[9]) Nigeria is not even in the top five countries on the ranking of startups by country of incorporation. As reported by TechCrunch, it appears that most startups operating in Nigeria that raise capital are not incorporated in the country. This phenomenon is likely due to the difficulty to do business in the country, which is confirmed by their low "Ease of Doing Business"[10] ranking of 131st out of 190 countries globally.

2020 Global regional comparison

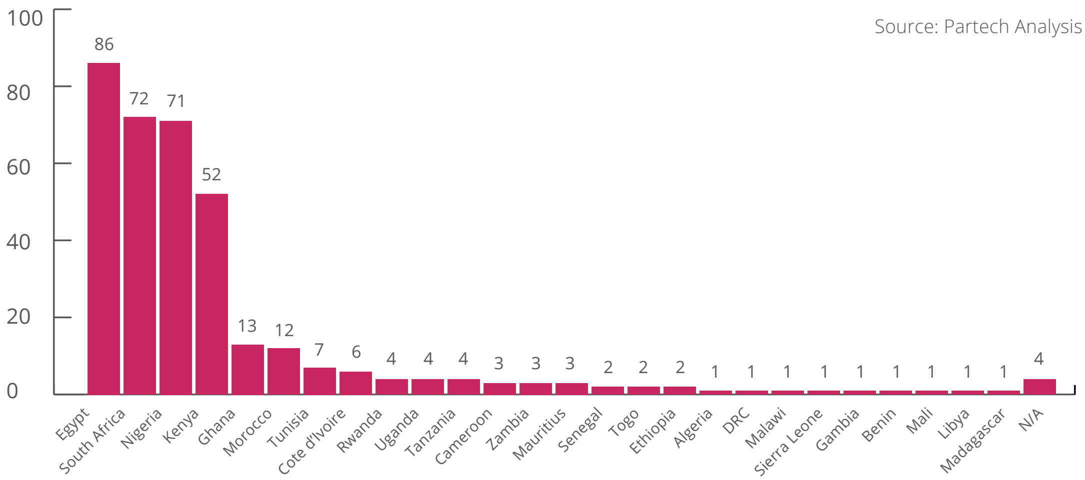
Source: PwC/CB Insights MoneyTreeTM Report Q4 2020 and Partech data.



9 https://techcrunch.com/2021/02/11/how-african-startups-raised-investments-in-2020/
10 https://www.doingbusiness.org/en/rankings

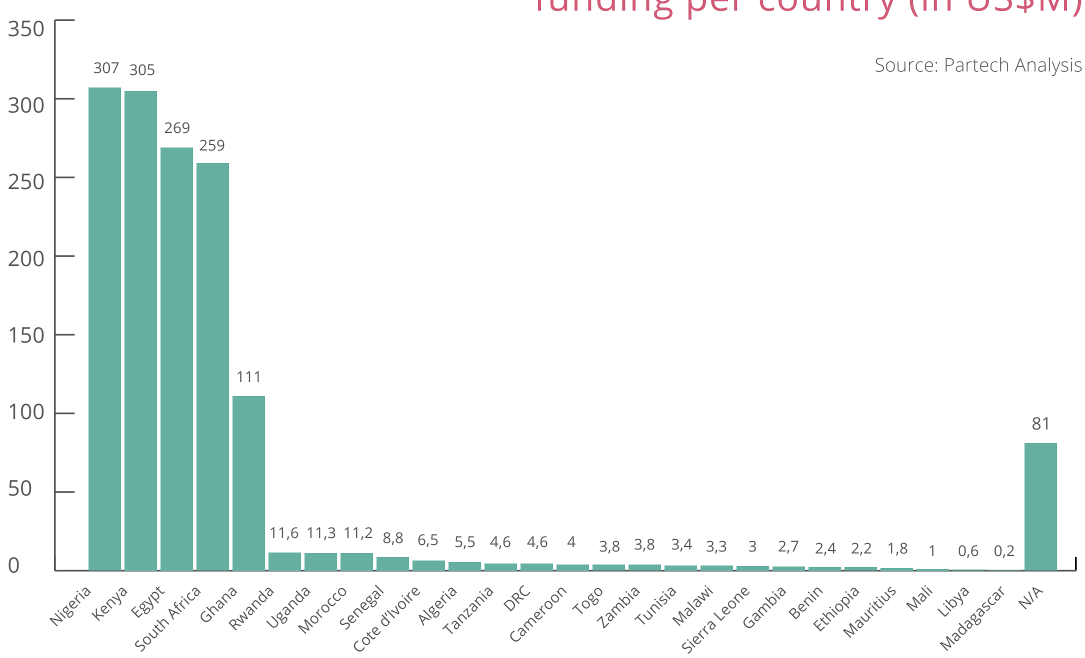
2020 Africa Tech VC - Number of equity rounds

Source: Partech Analysis



2020 Africa Tech VC - Equity funding per country (in US$M)

Source: Partech Analysis

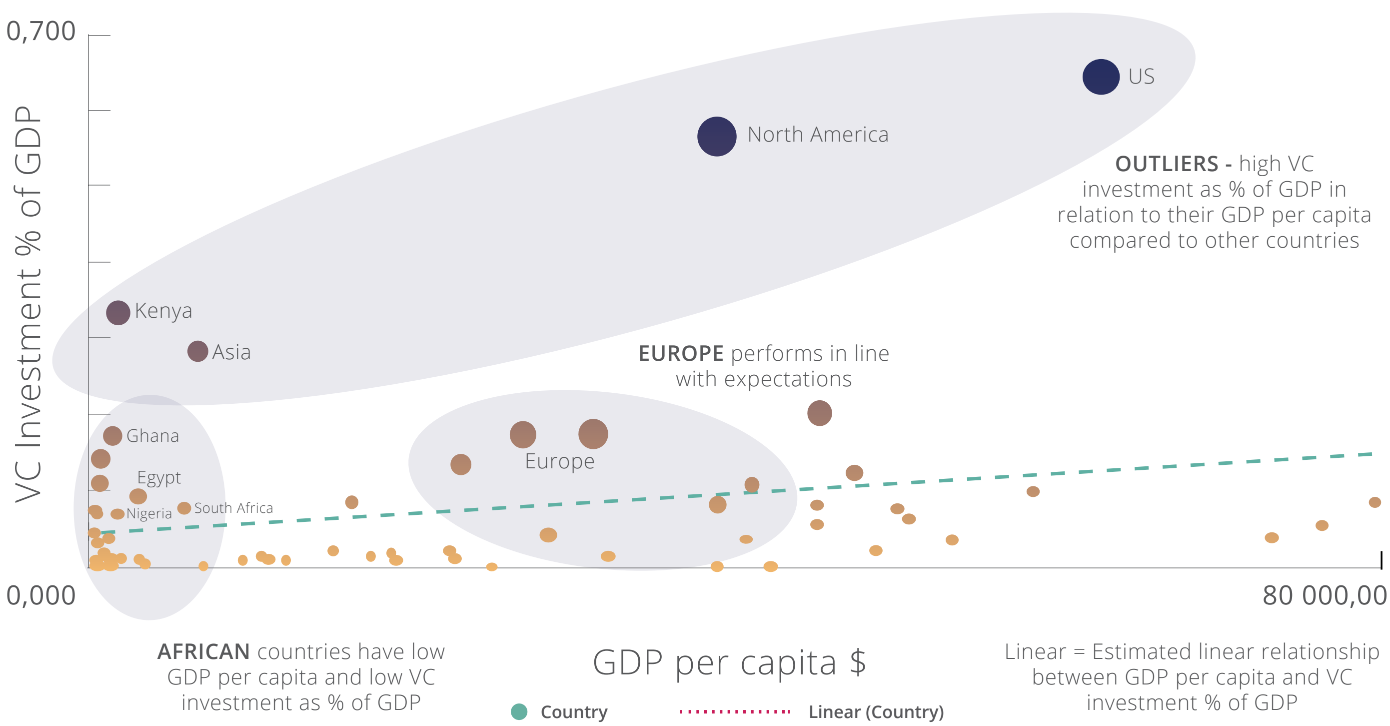


Investors also point out how difficult it is to start a business and invest in Nigeria: *"I had to spend a year to finish the registration of my local entity in Nigeria, and to get my business permit and residence permit. Until you get a residence permit, you cannot even have a local bank account, so I was unbanked for the past year. These things negatively affect investors' sentiment and are very discouraging, actually. Unless they significantly improve [the ease of doing business] it's very difficult to see more foreign VCs having local operations. If you don't have lots of VCs having local operations, it's difficult to close the gap [that we see in investment] for seed-stage startups. It's very difficult to invest remotely into seed stage startups."* (Kepple Africa Ventures)

In second place, Kenya received $305m in 52 deals in 2020 averaging $5,9m per deal (second behind Ghana for the highest average deal value). The value of deals in the Kenyan market declined by 46% while the number of deals stayed constant at 52 (with the average also dropping 46%). Venture capital investment into Kenya as a proportion of GDP is the highest in Africa at 0,32% of GDP which is higher than the same ratio for Asia (0,27%) and Europe (0,16%) but behind North America (0,57%) and the US (0,61%). On a per capita

The US, Asia and Kenya receive more VC flows than their GDP per capita suggests (GDP per capita vs. VC investment as % of GDP)

Source: AfricArena calculations; IMF data; OECD data; Partech Data; World Bank Data



basis VC investment in Kenya for 2020 was $5,80 (per person) which is also the highest in Africa.

The graph below displays the relationship between GDP per capita and the percentage of VC investment to GDP per country in 2019 (2020 for African countries). From the graph it appears as if the USA, Kenya, Asia and Ghana might be outliers compared to the rest of the world.

The Kenyan market has a high level of VC investment as a percentage of their GDP for the country's level of GDP per capita. This likely means that Kenyan VC financing is derived from foreign investors as the amount of investment exceeds the global and African norm of VC investment at that level of GDP per capita. This seems similar to the US and Asia, which could indicate that these regions are investing more than the global norm into tech startups via VC investments, which could strengthen the economies of those regions. Therefore we could infer from the graph that the Kenyan market appears to be the most advanced African VC market, as it receives more investment than it should based on its GDP per capita.

Kenya still, however, trails developed economies and other regions. In the US, for example, 2020 VC investment per capita was around $400, while Europe was $45 and Asia was $19.

The Kenyan market is ranked in 56th position in the ease of doing business score, the third highest African country behind Rwanda (38th) and Morocco (53rd) - which might influence the amount of capital invested in the country in proportion to its GDP.

After hearing comments from a South African investor who viewed the Kenyan Fintech market to be expensive (compared to SA), we attempted to unpack the regional valuation dynamics with a number of investors. Many of the investors (both LPs and GPs in traditional and impact focussed investments) agreed that the Kenyan market seems somewhat elevated.

The reasons appear to be that the country is easier to operate in compared to the other investment destinations on the continent (as per the ease-of-doing business rankings). In addition, according to a European based LP, the Kenyan market was the source of the innovation in pay-as-you-go solar power products.

This innovation was largely as a result of the prevalence of mobile money in the region[11] which then attracted early impact focussed investors, paving the way for more traditional investors to start investing in the region.

Over the last couple of years, East Africa and Kenya in particular has seen a lot of interest from development-oriented or impact investors, especially in certain sectors including off grid energy. This seems to have had an elevating impact on valuations, if compared to, for instance, South Africa which is less of an impact 'sweet spot' but offers very interesting opportunities." (FMO)

Another comment we heard is that the East-African region, and Kenya in particular, has a number of expats, which makes it more appealing for foreign investors to invest, as there is a level of familiarity. When we investigated further, we found that Kenya is indeed more highly ranked than West or Southern African countries as a top destination for expats ranked in position 36 (according to InterNations Expat Insider 2019)[12].

"Yes, it's easier for foreign investors to invest in Kenya, it's easier for entrepreneurs also to come from other regions and set up a business there. So it's easier to get talent here, it's easier to settle here, the government has ensured that foreign investment is not interrupted and capital can flow in the country quite easily. So that is very, very attractive for many people in comparison to Nigeria where the business environment is different. In Nigeria you will find more local entrepreneurs as opposed to East Africa and that creates a difference in how people allocate capital." (Goodwell Investments)
"For example in logistics in Kenya, in comparison to a similar logistics business in Nigeria, you find that Nigerian businesses might have better traction, and have grown in all areas better than the Kenyan business, but a Kenyan business has higher valuation. It has also been driven mostly by, American VCs, so they kind of look at this environment, from a Silicon Valley perspective." (Goodwell Investments)

A London based impact investor and LP provided a different perspective, that from anecdotal evidence the Kenyan market might be bifurcated, where the well-networked and well-branded businesses are: *"...still raising money at arguably top-ish valuations. But the market other than for those companies [i.e. for the less networked businesses] has got really thin and tight. There's a few people still riding the crest of a wave, but a lot of people are waiting to get back onto the wave again..."*

Two models to raise capital

There appear to be two models that African startups are following to raise capital. Firstly, there is the "Nigerian model" where founders incorporate their businesses in the US or other investor-friendly regions and raise capital from those regions. This is confirmed in the graph alongside by the African Private Equity and Venture Capital Association (AVCA) who found that between 2014 and 2019, 21% of deals were in companies with head offices outside of Africa (53% of those companies outside of Africa had HQs in the US), and confirmed by investors: *"So it's true that most of those entities are actually not incorporated in the jurisdictions where they operate. So we see Mauritius, we see Delaware, a whole lot. Of course, we do see a few that are incorporated locally, and what we've had to then get are dedicated advisers to be able to invest in those jurisdictions."* (Total Energy Ventures)

Foreign investors are likely attracted to the Nigerian market due to the perceived favourable demographics which if combined with a US incorporation (considered more investor friendly) would result in increased demand for investment: *"Private equity and venture capital investors seem to be attracted by the size of these economies and the opportunities that have emerged in these countries."* (AVCA)
"We're very bullish on the African tech ecosystem over the next decade, and beyond. I think whether you look at it from the perspective of demographics, and just the pure macro-economics of a growing internet enabled population, the age of the population, the size of the population, I think if you look at it that way, you can make a numbers argument, it could look at it from

11 Mobile for Development Utilities: Lumos: Pay-as-you-go solar in Nigeria with MTN; October 2016; https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/11/Case-Study-Lumos-Pay-as-you-go-solar-in-Nigeria-with-MTN.pdf
12 https://cms-internationsgmbh.netdna-ssl.com/cdn/file/cms-media/public/2019-09/Expat-Insider-2019_The-InterNations-Survey_0.pdf

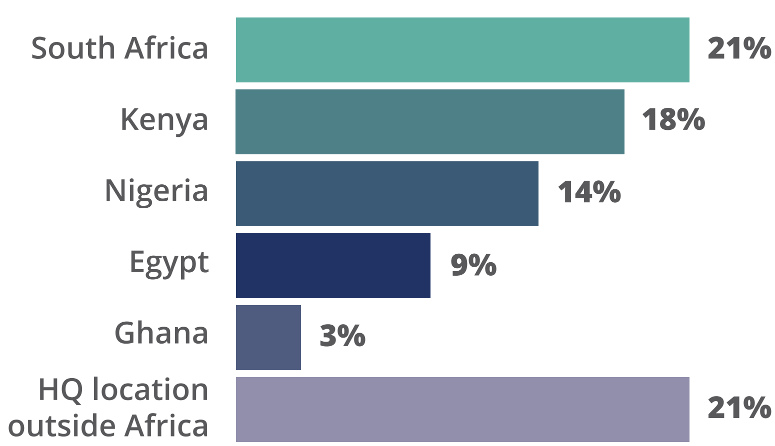
just a pure the amount of green space there is to build in technology in Africa and kind of start from scratch, where you're not dealing with legacy systems sometimes, like you are and other ecosystems. I just think it's exciting for a number of reasons." (500 Startups)

The second model is where founders raise capital from investors in their country of incorporation, the "Kenyan model". Looking at Kenya, and now increasingly Egypt, Ghana and Rwanda, these countries are enacting legislation to make it easier for foreign investors to deploy capital. African countries should also make it easier for foreign investors to set up offices and settle in the country, as this is the more prudent way that Seed stage investments are made. As previously mentioned, by Kepple Africa Ventures, it is very difficult to invest remotely into seed stage startups, so it is best for VCs to have a base where they are investing in order to understand the market better and deploy capital quicker. There is therefore an increasing need for countries to enact legislation to make it easier for businesses to incorporate locally, making it easier to start a business as an entrepreneur, but also to start a local investment fund and invest in seed stage businesses from the country.

It appears that South African startups are less likely to incorporate outside of South Africa at the early/seed stage. This is probably due to the difficulty to raise seed funding from SA-based seed investors as a company with a foreign HQ as most South African investors' mandates do not allow them to invest in foreign businesses. To alleviate this bottleneck, South African investors should either allow for more foreign HQ'd investments, or for legislation to make it easier for foreign capital to flow into the country.

Top early stage investment destinations by VC deal volume, 2014 - 2019

Source: AVCA



"South African investors tend to be more inward focusing." (Goodwell Investments) This is likely true as a result of the investment limitations that South African LPs place on local VC funds. For example, the SA SME Fund, the Vumela Fund and...

"The likes of TIA and IDC and their mandates, the IPR act and general government resistance to and discouragement of foreign HQs through red tape and complex and arcane regulation make staying local the path of least resistance. It's only once you get to a particular size that justifies going offshore that you go that route, particularly if you have had funding from one of the entities mentioned." (Savant)

In addition, 4Di confirmed that high growth startups would rather domicile elsewhere to encourage foreign investment, but as Savant indicated the costs of foreign head offices inhibits earlier stage startups. *"Global funds are currently still wary of investing outside of their jurisdictions like the US or UK and therefore a good proportion of these high growth businesses make the decision to domicile offshore early on in their life cycles."* (4Di)

Elsewhere on the continent Startup Acts are being proposed and have been implemented already in Tunisia (in 2018) and Senegal (in 2019). The Atlantic Council discussed some of the countries that have considered Startup Acts in Africa:

"Rwanda and Ghana, have both started discussions with key stakeholders in the last few months (of 2020). Even larger economies, such as Kenya, Ethiopia, and Uganda, have jumped on the bandwagon and are in various stages of passing their own versions."[13]

It is supported by numerous investors and industry bodies as it is expected to deliver positive outcomes once implemented: *"Developments associated with the efforts of national governments within Africa to implement supportive public policy to streamline business regulation for small businesses may attract more and more interest from investors and more VC investment in these countries. So, for example, in Tunisia and Senegal both [countries] passed Startup Acts to create a better local environment for innovation and entrepreneurship, and also Startup legislation is being pursued in Mali, Ghana and in Rwanda."* (AVCA)

"Indeed, we were aware of the Startup Act in Tunisia, and we very much welcome and support it, as well as similar Startup Act initiatives across the continent." (FMO) *"A good example is Rwanda, who has positioned itself as the hub for East Africa. So you find that many businesses go there to try and validate their business model, because it has an environment that is very conducive for foreigners to get in, to test their business models to find proper product market fit, and position themselves to scale into the larger East Africa. So I think there's a realisation as well, among governments in East Africa, particularly to provide an environment that can attract investments."* (Goodwell Investments)

On the flip side, other investors are more passive and will not actively engage governments to change their regulations, they will rather avoid investing in those locations.

"We're probably more passive saying, well, if it doesn't work, we won't go in there." (Total Energy Ventures)

13 https://www.atlanticcouncil.org/blogs/africasource/startup-acts-are-the-next-form-of-policy-innovation-in-africa/


global.
THE


Alison

This is the same for investors who find it difficult to setup offices in the country from which they would like to invest: *"I had an interesting discussion with a Chinese investor the other day, and he said they were planning on setting up in South Africa as their foray into Africa. He said it was just too difficult. Just the expectations and the arrogance coming out of South Africa was just too much. So they set up in Kenya."* (Savant)

Startup Acts have to make it easier for all parties to raise capital, setup companies and deploy capital.

One investor highlighted that the Startup Act in Tunisia didn't make it significantly easier for entrepreneurs to receive their equity funding: *"Even in Tunisia, the process of investment is quite complicated. After we remit our money to the startups, there are still lots of approval processes to be done. For example, the funds that we sent to a startup was held in an escrow account, and for these companies to move the capital from the escrow account into their own bank account requires lots of paperwork to be done. But I think investment, that startup act is more about helping the startups access support from the government. So in that sense, it's not as helpful for foreign investors."* (Kepple Africa Ventures)

In effect government regulations make it more difficult for entrepreneurs to start new innovative businesses. Perhaps a lack of regulation has been the strength of the Egyptian ecosystem as one investor indicated that there has been a vacuum of legislation in the country, this has helped startups to grow quickly and attract investment: *"Governments can only ruin the ecosystem... Governments should not become an obstacle through tax issues and strict regulation...Luckily in the domains of new startups particularly in internet based and platform based startups, the government was quite loose with regards to regulatory aspects. The beauty of an unregulated system is that it allows startups to operate. Over regulation prohibits small companies to enter an industry. Therefore, the government unintentionally helped the startup ecosystem because they did not over-regulate the industry."* (HIM Angels)

The increased interest and valuations in East Africa has presented a few opportunities for other regions. Investors in East Africa now search for more favourable opportunities outside of the region. These investors are now starting to invest in more nascent markets such as Zambia and Mozambique. For example, Goodwell Investments made their first investments in Mozambique and Zambia. But such a move is expected from an impact investor - who tend to enter into new regions before traditional VC investors. They expect this is likely to continue in 2021.

East African market is highly valued

It therefore appears that the East African market is highly valued. This is as a result of a more mature ecosystem that was initially supported by impact investors, and is significantly easier for foreign investors to set up offices in.

West Africa (and Nigeria in particular) appears to be attracting investors that are drawn by the positive demographics, and to entice these investors, most Nigerian startups are incorporating in more investor-friendly locations such as the US. In Southern Africa (excluding South Africa) there is an increasing interest being paid to opportunities in this region from East African based investors searching for lower valuations as well as impact investors looking for more nascent economies. South Africa, as a result of its Seed investors being limited by mandate to invest in foreign companies, has been in a sticky situation as the market is not friendly enough for foreign investors to set up offices in (the East African model), and startups struggle to raise seed funding locally if they follow the Nigerian model.

The Egyptian market has gained considerable traction aided by the strong demographic fundamentals (100 million plus population and growing financial inclusion and internet penetration) as well as the positive effect of the MENA region's high profile exit with Careem - as a number of previous Careem employees started their own businesses in Egypt.

"[the Careem exit impacted positively], "in terms of spirit and people, many people left to become founders of new startups... it raised the spirit and hopes of people because it was a role model of a company that was homegrown and was sold for a [significant exit]..." (HIM Angels)

The Egyptian market also receives investment interest from the ME VC investors: *"In Egypt, you can really see that swivel [SWVL] generation of guys going out and leaving that company or leaving Careem to just launch new ventures, and it drives the prices up. And the first slide of their deck is: 'I went through a swivel [SWVL], and now I'm doing a swivel for laundry machines'... I'm speaking with a few investors from Dubai and they're all looking at Egypt. So I guess there is capital available and much more than what you have for French speaking Africa, for instance, which automatically leads to an increase in valuations."* (Saviu)

As we saw, some regions outperformed others, however there was still a negative impact on value of investment. We next discuss what else the lockdowns and pandemic affected.

KEY TAKEAWAYS

- East Africa is highly valued, due to ease of access for foreign investors - this could continue as Startup Acts are implemented
- West Africa (Nigeria in particular) is attractive due to promising demographics, however the difficult investor climate is forcing startups to domicile elsewhere - a more favorable investor climate would benefit seed stage investors significantly
- South Africa's ecosystem struggles as it's not foreign investor friendly and foreign domiciled startups struggle to raise local seed stage capital.

"A big thing for us is getting to know the founders, but in person. We're not going to make an investment over Zoom."

4. What other impacts did COVID-19 and lockdown have on VC investors operations and actions?

The impact of the COVID-19 pandemic and the associated lockdowns on the investment process and operations were relatively similar across investors.

When talking about the number of deals concluded during the year, where due diligence had already started and investors were comfortable and had already been introduced to entrepreneurs, in most cases those deals proceeded and were completed. We spoke to a Nigerian investor, EchoVC, whose deal count was not negatively impacted by the pandemic and lockdowns, in fact their team made more investments in 2020 than in 2019. Savant is a South African investor and incubator who was negatively impacted by the pandemic and lockdowns. Savant's incubator provides significant hands-on support to founders, and provides investment opportunities for its fund. As a result of the lockdowns the incubated firms struggled to scale, which negatively impacted the number of investment opportunities for the Savant Fund.

An LP indicated that their investors initially spent more time on portfolio management with their portfolio companies as macro environment uncertainty increased.

Overall, most investors gained a level of comfort after Q3 and felt more at ease to deploy capital, this is confirmed in the increase in value and volume of deals in November and December 2020.

Impact on due diligence

Most investors pivoted to an online only due diligence method except where those managers preferred in-person due diligence methods. Those investors that prefer in-person due diligence had a very slow year of investments: *"Yeah, it was a bit slow last year for us. We only did two new investments. A big thing for us is getting to know the founders, but in person. We're not going to make an investment over Zoom. It's very important to get to know a bit about the founders. And the early stages are really tough, so you've got to know what makes them tick, the chemistry with the teams..." "...[two investments] was probably half of what we should do."* (4DI)

A foreign investor with Nigerian operations had a similar view, that seed stage investments require more in-person due diligence: *"It's very difficult to invest remotely into seed stage startups. If it is later stage, you can find which startups are doing great, because we have the revenue, and market share, and we can see the track record, but for seed, we cannot see anything."* (Kepple Africa Ventures)

These views however do not tie up with the experience and deal data of 2020 as both the number and value of seed stage deals increased significantly in 2020. It appears that more and more investors are becoming comfortable with remote due diligence at the seed stage.

Perhaps the number of seed stage deals are being strengthened by the increase in interest from successful entrepreneurs and from foreign angels looking to enter the African markets.

"I participate on the side with a syndicate of angels that just look at emerging FinTech deals across Africa. The [syndicate] community is from Africa, Latin America, the US, Asia, or from Europe. I'm sure we're not the only community that's doing that. Those communities are needed to fund things at the earliest stages in ways that weren't available before. Because when you get to a certain size, funding will come no matter what, like Jeff Beezos will show up! But if you are below that, and before you were pitching funds that were expecting, show me a million ARR before we'll fund you. I think now there's way more people that are kind of looking at things in the venture mindset and willing to fund things and riskier stages." (500 Startups)

Remote due diligence may also remove some investor bias as one manager indicated that online due diligence leveled the playing fields between good story tellers and good operators (who are less skilled at telling a great story).

A comment that we heard during the interview process that needs mentioning - is that in Africa the time to complete a due diligence process is probably too long in comparison to other regions especially for the size of cheques being written. The reason suggested is that the investors have more negotiating power during the diligence process.

"I feel that people take an inordinate amount of time to write very small cheques which is hilarious when you think of it, like from a transaction cost perspective. Besides just screwing companies, because they're continuing to burn cash for, like growth capital, so you're sort of wasting six months of growth and also eroding the balance sheet. When VC firms in London want to get a deal done, it happens within two weeks. Maybe just investors have too much power in terms of the dynamic right now..." (Ceniarth)

*"I think VC investors in Africa still operate slowly. If you look at India, Sequoia writes cheques on the same day they meet an entrepreneur, if they have an introductory meeting with a startup they like on Friday, they sign the contract during the weekend, and they send money on Monday. But in Africa, I think VCs have more negotiating power, as they can dictate terms can take time to complete deals. So I think that the speed of investing in Africa is actually slower than other parts of the world." (*Kepple Africa Ventures)

"But in Africa, I think VCs have more negotiating power, as they can dictate terms ... the speed of investing in Africa is actually slower than other parts of the world."

KEY TAKEAWAYS

- Early stage investors preferring in-person due diligence struggled in 2020, however the number and value of early stage seed deals increased in 2020.
- Investors are becoming more accustomed to investing in the seed stage in a similar time frame as the global norm. There is still opportunity for investors to improve their due diligence process to be quicker.
- Perhaps there is a need to standardise the due diligence process in order to streamline it, speed it up, and make it more 'online-friendly'.

Impact on portfolio assistance

Portfolio assistance varied from investor to investor. With access to advice and strategic support being consistent answers across the different types of managers. Portfolio assistance is the differentiating factor that can mean closing the deal or not - this is according to a corporate venture capital fund: *"I think if you have a strong value proposition [the portfolio assistance you can provide], you don't necessarily need to be the highest bidder, to do a deal... Founders want to partner with investors where there is a track record of success, and a track record of adding value to the investments..."* (Naspers Foundry)

There is also the factor of receiving capital from a successful investor which adds weight to the startup's business as an entrepreneur looking to scale, as said by an investor: *"The validation that you bring [as an investor], the faith that you're going to continue to support the business in terms of funding. The fact that people can trust that the business will be institutionalised etc. All of those things are valuable. And at the next round - investors also follow investors who are successful.* (Naspers Foundry)

Which is especially important for founders as they raise funding at later stages - the ability that your investors can open doors for later stage investment as the startup grows.

Another area that investors help with during the growth stage is with hiring more senior level staff, this was a common theme that we heard: *"We've been working with our portfolio companies in terms of recruiting and filling senior positions.* (Naspers Foundry)

"So a lot of this is getting C-level staff, which is quite difficult to come by because it's hard to find a CFO that's had startup experience... To have startup experiences is what you're really looking for, and that's quite tough [to find] and that goes for all [senior] positions really." (4DI)
"..for instance, we are helping to bring on board a CFO, and/or provide advice, tailored

to the companies' stage, on next steps in terms of strengthening corporate governance practices..." (FMO)

In South Africa and Africa, as the startup ecosystem is younger, it is more challenging to assist in the hiring process as the number of qualified and experienced candidates are lower, as discussed by 4Di. The attraction that a larger, global investor has might then be due to an extensive global network from which to call upon when assisting portfolio companies.

"We're always facilitating introductions, leveraging FMO's large network and portfolio across emerging markets but we are also keen to promote and facilitate knowledge exchange between our early stage investees. For example, we aim to bring our Fintech CEOs and founders together for a few days to allow them to brainstorm and talk about challenges and developments together. Due to FMO's wide geographic scope, we can ensure that the investees' target markets do not overlap reducing competitive sensitivities and ensuring an open dialogue." (FMO)

More practically, however, local investors have a more in-depth understanding of the local market nuances. This understanding was confirmed by a Nigerian investor who supported their portfolio companies by paying for their internet access and generator fuel in order to work from home during the 2020 lockdown.

Impact on fundraising

The impact of lockdowns on fundraising was more significant than on due diligence as LPs, such as Development Finance Institutions (DFIs), are relatively more risk averse and prefer to meet with General Partners (GPs) in person.

"There was definitely a lot of reluctance and hesitation to take on new projects [by institutional investors]... But what was interesting is then towards the end of the year, you saw that there was a massive re-engagement from institutional investors because now they had been sitting on capital... The private wealth segment can make investment decisions quite easily and faster, whereas institutional investors need to do due diligence, but because no one could travel, that became a real tension point of how do you invest in new funds if you can't even do due diligence where these investments are located." (Goodwell Investments)

"One of the challenges is that FMO is a fairly new player in VC and we are still on a learning curve ourselves when it comes to certain regions and ecosystems on the continent; therefore it is important for us to be able to travel and spend some time on the ground locally with several prospective fund candidates. We've also seen funds postponing their fundraising efforts, or at least postponing first or second closings... We have the capital available, but we are waiting for travel restrictions to lift before we can move ahead with additional fund commitments" (FMO)

However other LPs that are more flexible, such as High-net-worth individuals, were more likely to provide funding for GPs based on an impact lens.

"Within your high net worth or let's call it the private wealth segment. We found that we received quite a lot of support from those segments, there seemed to have been a rally of support around COVID-19 and a deep engagement and interest." (Goodwell Investments)

KEY TAKEAWAYS

- Fundraising for GPs during 2020 was largely supported by more flexible LPs, as institutional investors grappled with the changing macroeconomic environment and the lack of ability to do in-person due diligence on GPs.
- As travel restrictions are lifted and LPs become more at ease with performing due diligence remotely, capital will start flowing to GPs and then entrepreneurs.

5. Surviving and thriving amidst a pandemic: Africa's key tech sectors and startups, and their 2020 experience.

5.1 Developments in the Startup-VC dynamic, and the rise of Early-stage

Having reviewed the overall venture capital landscape that shapes Africa's startup ecosystem, we now move into the key sectors, companies and individuals building the continent's future and how the past year has shaped the ecosystem.

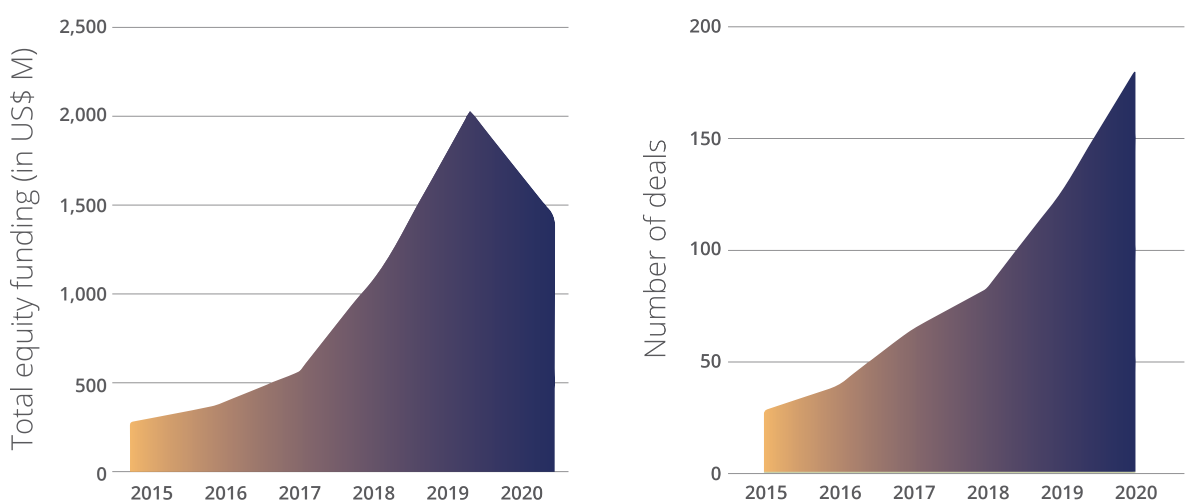
These are the questions we want to explore as we try to paint a picture behind the facts and figures, with emphasis on the startups and founders driving the continent through innovation:

- What are the local conditions in the different sectors that allow innovation to happen?
- Which sectors received the most funding?
- Who are some of the recipients of funding?
- And how is their business model unique and sustainable during tough times?

The qualitative and quantitative analyses of venture funding in African tech startups is a recent research domain which would excuse the disparities between reports on the exact facts and figures. Methodologies differ, thus values differ as well. However, the common thread is the increasing traction received in African tech innovation, even amidst a global health and economic crisis, which is an interesting story that needs to be delved into.

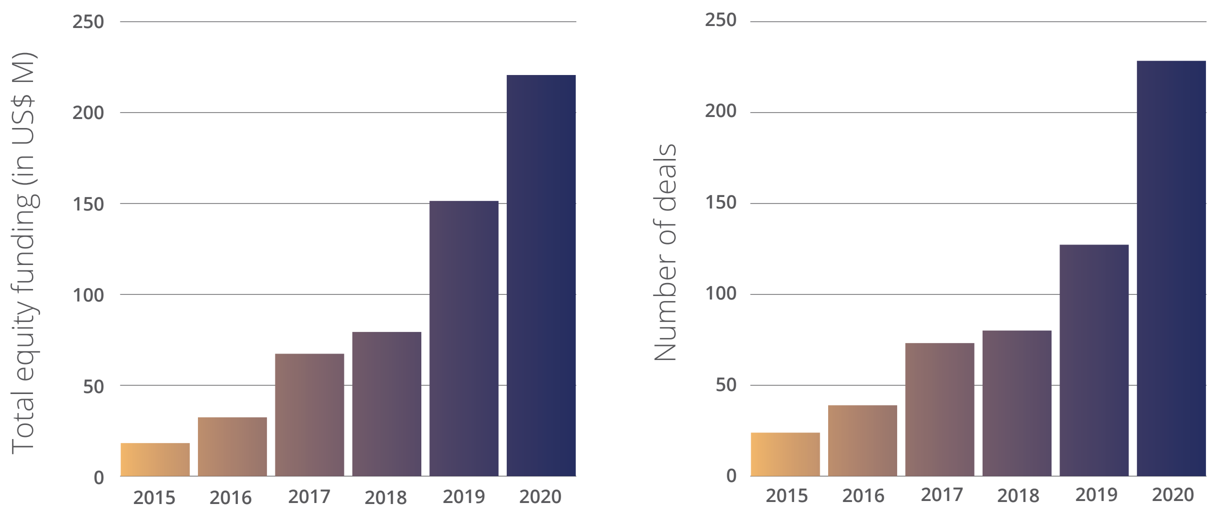
African tech VC total equity funding vs. deal count: 2015 - 2020

Source: Partech



Development of early stage startup investment in Africa: 2015 - 2020

Source: Partech



2020 was bound to be different.

The degree to which Africa's tech innovation and investment landscape has been impacted by the COVID-19 pandemic is a mixed bag of results. The scale does not tip extremely on either side - great nor very bad. The great news for this robust ecosystem has been an increase in the number of equity deals in comparison to previous years - up by 44% according to Partech. In fact, more deals were recorded in 2020 than ever before - dating as far back as VC deals have been recorded.

On the flip side, as expected and feared by many, large deals were fewer; in addition to this, average ticket sizes of these deals were smaller in amounts across all deal stages, thus dropping the total value of equity deals by 26-to-29% (Maxime Bayen and Partech, accordingly).

Despite the decrease in total funding towards startups in 2020, compared to 2019, it is still remarkable to observe that investor appetite has not diminished amidst a pandemic - where global financial markets have been unkind to many industries, businesses and individuals. In a challenging year, it is unprecedented that more African tech startups received funding than ever before.

Despite that each venture stage saw a decrease in ticket sizes, more deals were done across the board. Source: Partech Partners Africa.

How does Africa as a whole compare to the United States startup ecosystem in 2020?

VCs invested $3.9 Million per day into African startups in 2020. In the US, startups received VC investment of $428 Million per day. With consideration to Africa's Chapter 1 to the US's Chapter 156, it is still interesting to compare the VC activity of these ecosystems.

According to data shared by PitchBook and the National Venture Capital Association, investors poured $156.2 billion into domestic startups last year, or around $428 million for each day of the year[14]. If it holds that a chain is as strong as its weakest link, the size of the US VC landscape can be measured by looking at the funding that goes into Seed stage level. In the US, 5,227 deals were recorded, per PitchBook's estimates. Those rounds were worth just over $10 billion, making it the third year in a row in which American seed-stage startups managed around $10 billion in capital against around 5,000 rounds[15] - showing a consistency in the level of funding and pre-money valuations in the US's Seed stage.

Back to Africa - The main story of 2020 is the rise in the number of early-stage deals.

What's interesting in 2020 is the stark consistency in which early-stage investing is growing in the nascent VC landscape. Based on Partech findings, the above graphs show a sharp uptake in deal volume between 2019 and 2020. The 228 deals in Seed level represent 22% of the total equity funding in 2020 - a remarkable increase compared to the 7.5% in 2019.

Between 2015 and 2020, investment into Seed stage startups increased almost 10X in deal volume and over 12X in deal value. Further to this, the continent's startup ecosystem also saw more investors come to the table (443 unique equity investors) - an increase of 24% - 108 of whom transacted two or more deals.

Why is this important? Africa's early-stage funding gap is problematic for many reasons. Surveys conducted by AfricArena among its community of entrepreneurs found that more than 80% of the startups bootstrapped during their very early stages of proving their concept and getting to market. This makes sense: Investors want certainty of ROI, and nothing spells uncertainty than an untested business model. At the same time, the lack of high value growth stage deals and M&As can be partially attributed to a starved funnel at the early stages.

Aaron Fu, who co-founded a new fund dedicated to early stage investing, Sherpa Ventures, and previously invested and accelerated early stage startups at MEST, states: *"The results bootstrapping founders have achieved in the last 10 years have been incredible, but imagine how many good outcomes could've been phenomenal outcomes if there was more capital accelerating their progress, enabling them to take bolder risks, strengthen their talent base, invest in stronger design and software architecture."*[16]

The time spent by founders looking for funding takes away precious time from their business - time that could be spent in product development, customer acquisition, and more. Such sentiments

14 In 2020, VCs invested $428M into US-based startups every day. TechCrunch. Alex Wilhelm. January 19, 2021.
15 Ibid.
16 Why funding matters at early-stage, and why more funds are active in this area. Disrupt Africa. Tom Jackson. January 8, 2021.

are shared by the co-founder and CEO of Paystack - who comments that the recent $200 million acquisition of Paystack by Stripe allows him and his team to focus on their business and customers without worrying about chasing funds[17].

How do we bridge the funding gap?

So what's the ideal investor for an early stage startup? Is it just capital that is missing to bridge the funding gap? It certainly isn't just funding that is needed for a startup to go from Zero to One.

Investors such as Aaron Fu and Zacharia George (Chief Investment Officer at Startupbootcamp AfriTech and VC Principal at Nedbank) both agree that the network of an early stage investor can prove crucial to a startup. George asserts that, *"Investors at the early stage should offer access to very clear, defined networks in the industry – such as corporate divisions that can run pilots, proof-of-concepts or commercial transactions with the startup to validate and verify a problem-solution fit. Investors should also be assisting with guidelines around industry best-practices that often the founders don't have much experience or expertise in. Lastly, investors at the early stage should be able to clearly open doors to a rolodex of later stage institutional investors once certain KPIs around revenue, transaction volumes etcetera are met from the seed round."*

Aaron Fu says, "*Strong active early stage investors are able to synthesise tools, frameworks and learnings from a range of startups they've worked with to give founders that peek around the corner, anticipating challenges and building mitigation strategies from day one.*"

Incubation and acceleration - a ground for Seed stage nurturing

Arguably, most investors are more often than not capital allocators, and some are strategy consultants at best. Most investors are not active in the day-to-day operations of a startup they invest in, and therefore cannot always be a plug in fixing gaps in general administration, legal, marketing, product development and IP protection, and other elements. This said, incubators and accelerators have become a breeding ground for tech development and nurturing, building the startups up to the point where a business is sustainable and investable.

Having worked with hundreds of startups from across Africa in Startupbootcamp, Zach George asserts that incubators and accelerator programmes are a great filtering mechanism for early-stage investors to source what ventures they can back, whereby their investments do not go into non-value adding functions, but rather, go towards functions that actually scale the business, like acquiring customers[18]. From an investor's point of view, an incubation or acceleration programme substantially mitigates some of the risks inherent in the pre-Seed to Series A stages.

Africa's ecosystem of "tech hubs" is ever growing to accommodate the next generation of innovators. To date, Africa has more than 600 tech hubs and this number is rising, according to GSMA research[19]. These tech hubs are ranging from incubators and accelerators, to co-working sites (distinctions and definitions in Glossary). While the startup game is about survival of the fittest, it is also one where community and practical support is invaluable.

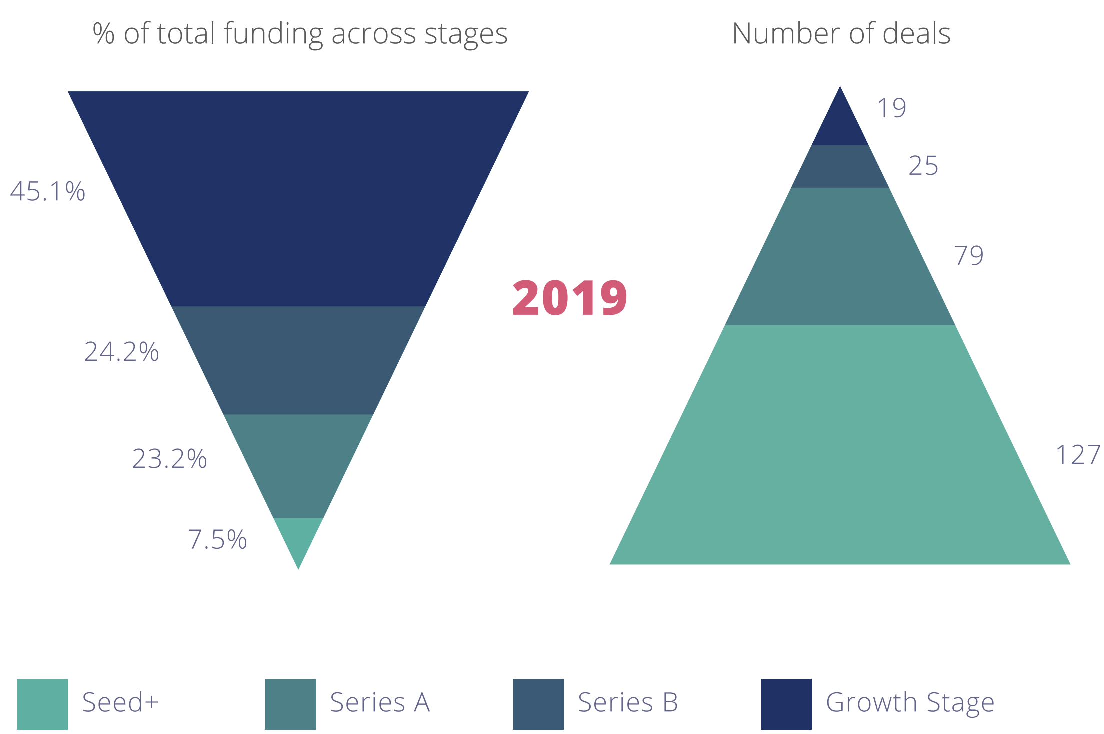
17 Inside the Stripe Acquisition of Paystack with Shola Akinlade and Matt Henderson.[Podcast]. The Flip. December 3, 2020.
18 Why funding matters at early-stage, and why more funds are active in this area. Disrupt Africa. Tom Jackson. January 8, 2021.
19 618 active tech hubs: The backbone of Africa's tech ecosystem. GSMA. July 10, 2019.

Despite the rising number of tech hubs in the continent, the challenges that inhibit their ability to fulfill their mandates persist. For one, just like the startups they aim to nurture, a key roadblock is capital. Research conducted by Afrilab and Briter Bridges found that over 100 hubs have shut operations in the last few years due to bankruptcy. As revealed by Ashwin Ravichandran, the Managing Director of MEST - which builds and funds startups through an annual, pan-African training programme, *"Infrastructure is one of our biggest challenges. We are paying US$250,000 per year to run an incubator, which is ridiculous."*

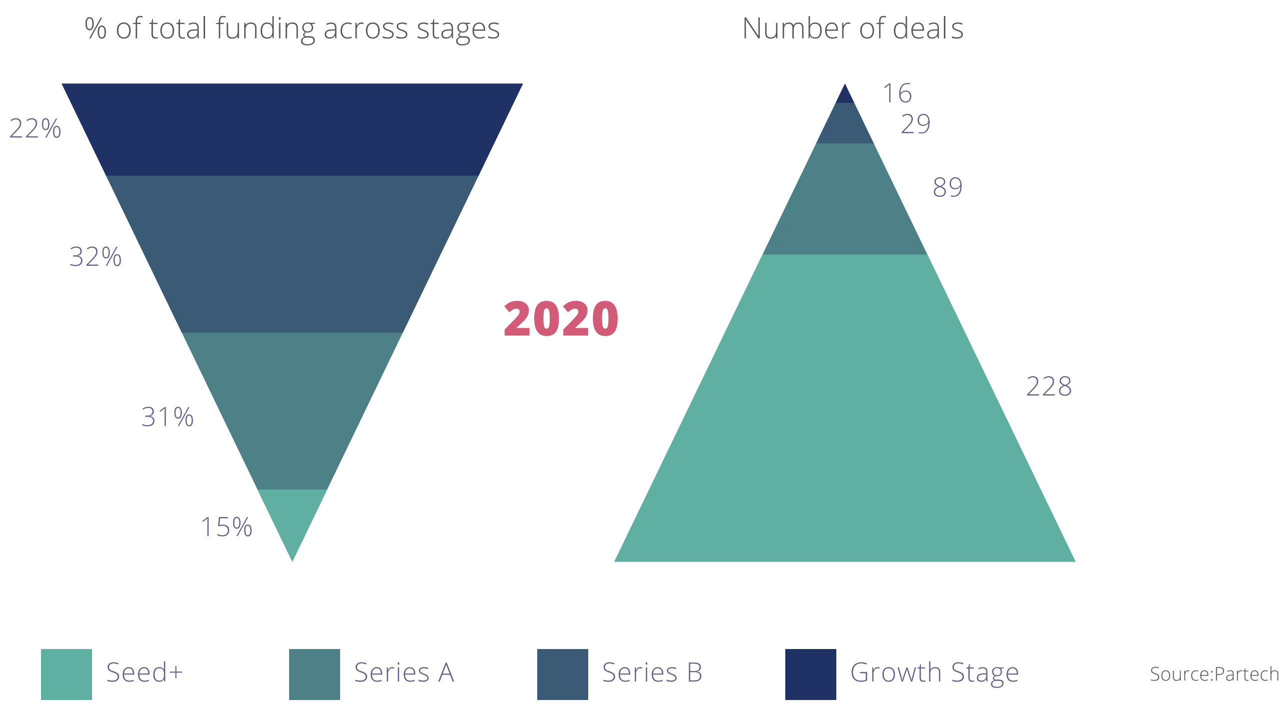
Looking at MEST and their ability to consistently train and fund software engineers, the issue of funding points to the importance of private backers to help sustain tech hubs. MEST (or the Meltwater Entrepreneurial School of Technology) is backed by global software company Meltwater.

Many of the top performing tech hubs in Africa are backed (in varying degrees) by international corporations looking to keep their eyes and ears on the ground and partner with world-class tech talent. Such corporations include Microsoft, Facebook, Google, Amazon, IBM, and Orange; as well as pan-African corporations such as MTN, Standard Bank, and Liquid Telecom.

Another challenge facing tech hubs in Africa is a cohesive rating system that measures their effectiveness in achieving their mandate. This was a topic in one of the panel discussions at the AfricArena 2019 Summit, where Matsi Modise, the CEO of Furaha Afrika Holdings, which provides business development and advisory services to small businesses, said there were hundreds of programmes available to startups, but because there was no



Source:Partech



public rating system entrepreneurs were unable to make informed decisions about what programme to enter. Many have felt short changed as a result of taking part in the wrong incubator or accelerator[20].

Ashwin Ravichandran adds to this, *"It is not really possible for every incubator to have a list of tangible outcomes. It is more linked to intent".*

In the same discussion, Nosipho Khonkwane, executive manager of the South Africa's Small Enterprise Development Agency (Seda) Technology Programme, takes a different view by asserting that incubators and accelerator programmes should measure themselves by revenue and job creation[21].

"Getting involved with an incubator requires more than simply filling out an application. You need to get clear about which type of incubator would be the best fit. One of the most damaging mistakes a brand-new company can make is choosing one that doesn't thoroughly meet its needs," explains Nav Athwal, founder and CEO of RealtyShares[22].

That said, AfricArena and Digital Collective Africa (www.digitalcollective.africa) have compiled a comprehensive list of Africa-focused incubators and accelerators that can be accessed here.

Deals across funding stages

We know more deals were carried out in 2020, more investors came to the party, and yet the overall ticket sizes diminished. But how does this play out in the spread of capital across the different stages?

The two inverted pyramids illustrate the distribution of venture capital across the different stages, according to Partech numbers for 2019 and 2020.

20 Rating incubators and accelerators – how do African startups choose? Disrupt Africa. Tom Jackson. November 18, 2019.
21 Ibid.
22 The Definitive List Of South African Business Incubators For Start-Ups. Entrepreneur. Nicole Grampton. February 27, 2019.

What we saw in 2020 in comparison to 2019:

- Diminished ticket sizes across the board in the venture funding stages
- A few less growth stage deals, and a lot less capital allocated in the those deals
- A significant growth in the number of deals in the Seed stage, and a significant increase in the percentage share in the overall funding

KEY TAKEAWAYS

- Investor appetite is still strong - despite a decrease in total equity funding in tech startups in 2020, more deals were closed (with decreased ticket sizes) than previous years.
- VCs invested $3.9 Million per day into African startups in 2020. In the US, startups received VC investment of $428 Million per day.
- The number of early-stage deals increased by 80% YoY
- Incubators and accelerators are a great plug for mitigating the risks associated with the investability of early-stage to Series A startups.
- Many tech hubs struggle to fulfill their mandate because of resource constraints. Corporations, international and local, are the biggest backers of tech hubs in Africa.

“Four sectors, collectively, secured more than 60% of all deals in 2020; and five countries, collectively, secured 87% of all deals in 2020.“

5.2 Sector developments & major deals

From the survey conducted by the AfricArena team in January 2020 on a sample of its community of founders, it was evident (and remains so) that major challenges for tech entrepreneurs starting and growing their business in Africa are relative to access to funding, customer acquisition and talent acquisition. These challenges are consistent across different sectors. From a funding perspective, it remains that some sectors are more favourable than others, and some markets are more attractive than others. In 2020, this changed a bit in comparison to previous years. The data on equity funding amount shows an increased diversification in funding distribution across verticals and geographies - more countries and more industry sectors had a share in the funding pie in 2020, compared to before. Nevertheless, a few sectors and a few markets still have a large chunk of the VC funding pie.

"Four sectors, collectively, secured more than 60% of all deals in 2020; and five countries, collectively, secured 87% of all deals in 2020." (Partech findings).

Geographically, capital is still largely concentrated in a few markets and this is shown in the spread of investments in startups. Most reports confirm that Nigeria, Kenya, Egypt, and South Africa as "the big four" booming markets in tech investment, collectively securing almost 90% of the capital, with Ghana slowly catching up with the pack, securing about 8% of the total funding in 2020. Despite the high concentration of capital in a few markets, geographical spread was the main trend in 2020 as startups secured investment in 26 countries, a sizable leap compared to 19 countries in 2019 (Disrupt Africa and Partech).

Greatest number of people not connected to the internet

Source: Digital 2020: Global Digital Overview. Datareportal. Simon Kemp. January 30, 2020.

No.	Country/Territory	Unconnected	% Population
01	India	685,591,071	50%
02	China	582,063,733	41%
03	Pakistan	142,347,735	65%
04	Nigeria	118,059,925	58%
05	Bangladesh	97,427,352	59%
06	Indonesia	96,709,226	36%
07	Ethiopia	92,385,728	81%
08	Dem. Rep. of the Congo	71,823,319	81%
09	Brazil	61,423,295	29%
10	Egypt	46,626,170	46%

Fintech

"Africa is not a country, but we make it feel like one." (Olugbenga Agboola, Co-founder & CEO, Flutterwave) the Nigerian fintech company processed more than 80 million transactions, worth $7.5 billion in 2020 alone. Furthermore, Flutterwave closed a milestone Series C round of $170 million in March 2021 - giving them Unicorn status ($1 billion valuation).

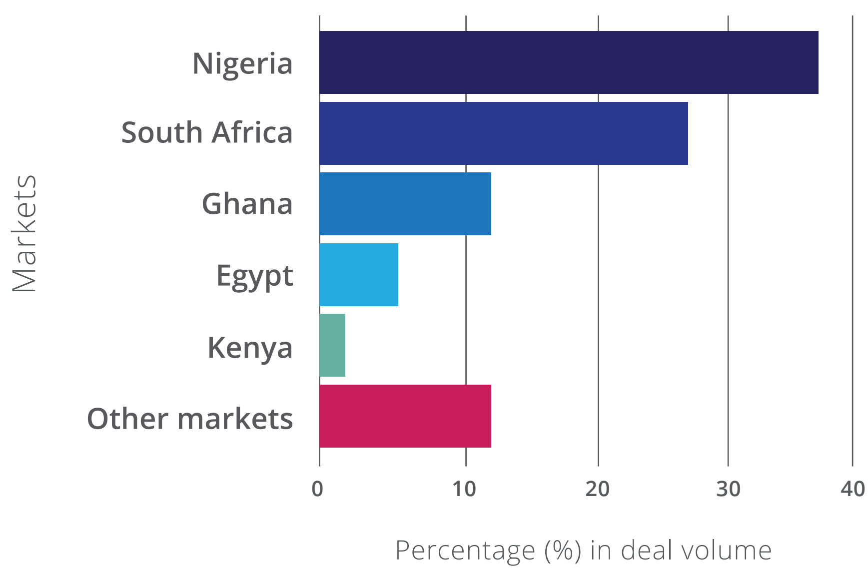
The popularity of fintech solutions has spiked in recent years, and this is reflected in the sector's consistency in attracting about a quarter of equity investment deals in the continent year-on-year. A large part of the reason is due to the financial systems and infrastructure (or lack thereof) that have left around 66% of adults on the continent unbanked, according to the World Bank. These Africa-focused financial technology solutions provided by startups are not so much disrupting traditional financial services, but rather building up a historically underdeveloped industry. By creating a raft of tech-based products and solutions - including mobile money, online payment processing, lending, insurance, and investing - startups are plugging large gaps that exist in local financial service industries creating a "leapfrog effect". Markets across Africa benefit from technological advances in financial services, particularly in helping reduce the cost of providing services, making it possible to reach more people, and reducing the need for face-to-face interactions, essential for keeping up economic activity during the pandemic. Economies have become increasingly digital, and this has been accelerated by the pandemic and its effect on face-to-face interactions and physical touch points.

The digital economy in emerging markets sees deeper internet penetration, smartphone usage and improved digital infrastructure - such developments that favour startups (who are already agile by necessity) to quickly adapt and expand

Equity funding in Africa's Fintech sector in 2020 total US$356M.

87% of the equity deals come from "the big five" tech hubs.

Source: Partech



financial services in an array of creative ways. The proliferation of fintech services and the investment into those providing such services across Africa is earmarked by the vast number of people that are still "unconnected" in the digital economy - mainly in emerging markets. In Africa, 4 countries are in the top 10 ranking of greatest number of people are not connected to the Internet, according to Datareportal[23].

Where there is a challenge/problem, there is opportunity, which is what we see with Nigeria's race to deploy digitally enabled financial services to its 118 million unconnected population.

We see more and more startups operating in multiple verticals at once, with a fintech infrastructure at the core. An example is WellaHealth's (Nigeria) adoption of insurtech into its healthcare offering. Although WellaHealth has been around since 2015, the startup pivoted late 2019 and its new focus is attracting more attention. Initially an e-health startup focusing on pharmacy automation, WellaHealth has pivoted towards fintech, and now offers affordable healthcare coverage to protect families from the financial shock that comes from unexpected health emergencies. Since this adoption, the Nigerian startup has secured US$259.4K in capital over 4 rounds[24].

A few trends in the fintech sector have accelerated in the past year. For one, we have seen fintech startups known as being "payment" platforms expand their value-added services for their merchants during lockdown. The first move was made by one of Nigeria's premier banks, GT Bank, and this was quickly followed by some of Nigeria's premier fintech startups. At the forefront of this has been Flutterwave and Paystack, who both have developed e-commerce services on top of their core payments solution (Flutterwave Store and Paystack Commerce, respectively). They expanded from specializing in digital cash registers to hosting digital storefronts, helping previously offline small businesses suddenly without foot traffic set up online shops, receive payments and arrange delivery options.

As noted by TechCabal's Alexander O. Onukwue: *"They [Flutterwave and Paystack] are not only convincing vendors to come online and collect payments digitally, they are teaching them better product marketing, nudging them towards smarter inventory management (notifications for low stock) and encouraging better customer relations (direct WhatsApp chat)."*[25]

This ecommerce expansion may be more than just a temporary gap filling experiment, but perhaps the building of a baseline for standards in selling online - more professionalism and better product presentation.

Sticking to the subject of Paystack - their acquisition by Stripe has been one of the biggest exit (and success) stories of the year for Africa's startup ecosystem. Stripe's $200 million acquisition of Paystack last October was the culmination of regular engagement and synergies between the two fintech companies - both of which are alumni of the US-based Y-Combinator accelerator programme. The first transaction and official partnership between the two

23 Digital 2020: Global Digital Overview. Datareportal. Simon Kemp. January 30, 2020.
24 https://www.crunchbase.com/organization/wella-health/company_financials
25 The Next Wave: Fintechs on Africa's eCommerce highway. Alexander O. Onukwue. TechCabal. December 7, 2020.

Major deals in the African fintech sector in 2020

Compiled by AfricArena (deal information found on Crunchbase and PitchBook)

Company	Country	Amount (US$)	Stage	Date
DPO Group	Kenya	$288 Million	M&A	July 2020
Paystack	Nigeria	$200 Million	M&A	October 2020
Flutterwave	Nigeria	$35 Million +	Series B +	January 2020 and
		$170 Million	C	March 2021
Chipper Cash	Nigeria	$13.8 Million +	Series A +	June and
		$30 Million	B	November 2020
Bitfxt	Nigeria	$15 Million	Undisclosed	February 2020
Kuda Bank	Nigeria	$10 Million	Seed	November 2020
MoneyFellows	Egypt	$4 million	Series A	June 2020
YouVerify	Nigeria	$3.6 Million	Undisclosed	March 2020
Paymob	Egypt	$3.5 Million	Undisclosed	August 2020
VALR	South Africa	$3.4 Million	Series A	July 2020
Pngme	Nigeria	$3 Million	Seed	August 2020
NowPay	Egypt	$2.1 Million	Seed	October 2020
WorkPay	Kenya	$2.1 Million	Seed	August 2020
Turaco	Kenya	$2 Million	Seed	November 2020
Umba	Kenya	$2 Million	Seed	December 2020
Xend	Nigeria	$1.5 Million	Seed	November 2020
CredPal	Nigeria	$1.5 Million	Undisclosed	December 2020
Inclusivity Solutions	South Africa	$1.3 Million	Series A	May 2020
LipaLater	Kenya	$1 Million	Seed	February 2020
Okra	Nigeria	$1 Million	Pre-Seed	April 2020
Flick	Egypt	$1 Million	Pre-Seed	October 2020

was in 2018 when Stripe led Paystack's Series A round, and preceding that raise, the CEOs of the respective companies had sustained conversations on their synergies and a possible partnership, as revealed by Paystack CEO Shola Akinlade in his interview on The Flip podcast[26]. The acquisition was a natural progression and therefore did not surprise many onlookers. Nevertheless, the acquisition, to an extent, further validates Africa's fintech capabilities for a global market.

26 Inside the Stripe Acquisition of Paystack with Shola Akinlade and Matt Henderson. [Podcast]. The Flip. December 3, 2020.

KEY TAKEAWAYS

- The e-commerce bandwagon: as seen with Flutterwave, Paystack and others, more and more payment providers will seek to build value-added services on top of their core payment system to better equip their merchants in e-commerce trade
- The acquisition of Paystack by Stripe, and Visa's 10% stake in Interswitch, and Flutterwave's recent "Unicorn" status, validates Africa's fintech space and its ability to innovate at a global scale.

Agritech

"We are seeing a uniqueness in African agriculture problems & challenges that justifies the need for locally built solutions." (Benji Meltzer, Co-founder and CTO, Aerobotics).

What we can ascertain from the investment data of 2020 is that investors continue to see strong potential in African agriculture - which is a primary employer and a key sector in addressing global food security[27]. Tech startups addressing key challenges by farmers, including access markets, insurance, financing and knowledge, and increasing outputs, have a huge role to play in ensuring food security, and the big rounds being taken in by certain companies in the space speak to the faith investors have that the sector is ripe for returns and impact.

As one of Africa's most critical sectors, agriculture is becoming more and more digitized. With technologies like machine learning and data analysis, companies such as Apollo Agriculture (Kenya) and Agrocenta (Ghana) have been able to scale components of the agriculture production process from data collection and verification to accessing credit worthiness, customer onboarding, developing farmer-specific credit models and loan repayments/collections[28].

Because the challenges faced by farmers cannot be isolated from each other, tech startups in the agritech sector aim to provide solutions across the value chain. In the case of Agrocenta, in 2016 they introduced an online sales platform ("CropChain ") that connects smallholder farmers directly to an online market, which has wider geographic size, to sell their commodities. This results in reduced exploitative buying to the barest minimum since farmers are in control of selling their commodities at prices that are favourable to them.

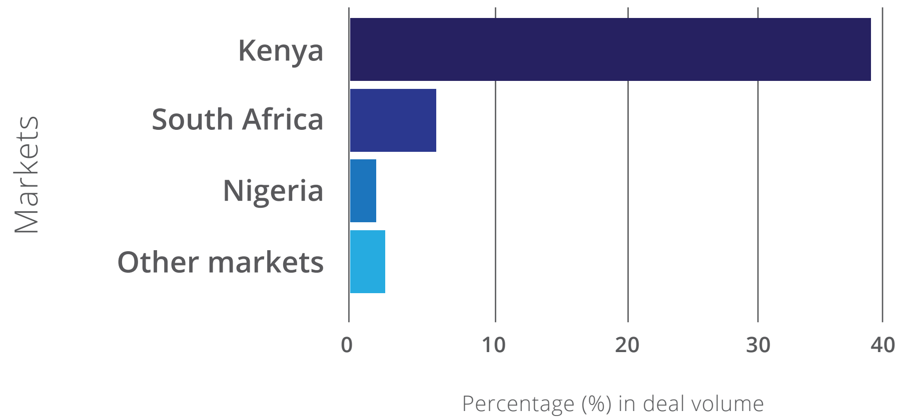
As a result of this a farmer gets favourable offers for their stock from interested buyers; the next hurdle is getting the stock to the buyer. This logistical problem is addressed using AgroCenta's proprietary

27 Inside the Stripe Acquisition of Paystack with Shola Akinlade and Matt Henderson. [Podcast]. The Flip. December 3, 2020.
28 African Tech Startups Funding Report 2020. Disrupt Africa.

Equity funding in Africa's Agritech sector in 2020 total US$179M.

95% of the equity deals come from 3 major tech hubs.

Source: Partech



"TrucKR" solution that allows the smallholder farmer in any remote village in Ghana access to trucks at the click of a button. Further to market access, another challenge AgroCenta addresses is financial inclusion for smallholder farmers. Their "LendIt " solution allows institutions to on-lend and disburse funds to a large network of smallholder farmers - supplemented by mobile payments ("AgroPay ") and crop insurance. This startup looks to ease farmers' journey, from seed to market.

AgroCenta's value proposition and business model has been backed by a total funding of US$2.2 million from various investors and institutions. Their most recent raise has been a US$790k pre-series A round, that included Shell Foundation, FCDO, AV Ventures and Rabo Foundation. The startup says it plans to use the recent funding to scale its agri-tech ecosystem and purchase crops from farmers. It also plans to develop its smallholder farmer inclusion programmes. Their US$790k raise comes at the backdrop of astronomical deals being done in the agritech space in Africa, including: US$85 million by GRO Intelligence, Aerobotics' US$17 million raise, and Pula's US$6 million raise.

In 2020, 18 deals were recorded in technology-enabled solutions in agriculture, accounting for 5% in total deals and 13% in total funding (according to Partech). However, venture funding in the agritech sector remains highly concentrated with 79% of the equity funding in this vertical flowing into Kenya, but this is owing to a single large deal of US$ 85 million.

The future of agritech lies in big data and intelligence processing. As stated by GRO Intelligence Founder and CEO, Sara Menker, *"Food security and climate risk represent existential global-sized opportunities for our AI-powered decisions and insights platform."*

This assertion is further supported by Aerobotics' Chief Technical Officer, Benji Meltzer: *"Agriculture is an extremely risky industry, with a huge number of variables contributing to the crops performance. Traditionally farmers have struggled to make data-driven decisions during the season, largely due to limited data and insufficient* *analytical tools to generate insights. Access to this data (often captured entirely remotely) and these tools is allowing farmers to mitigate against risk through early problem detection, leading to actioning corrective interventions, reducing resource allocation and costs (through more precise resource allocation) and increasing harvest potential - helping farmers optimize their production."*

In both cases, Aerobotics and GRO Intelligence will be using their capital raise to accelerate the growth and global adoption of their products - enhancing their machine-learning capabilities and delivering localized insights on food, agriculture and climate risk.

Major deals in the African agritech sector in 2020

Compiled by AfricArena (deal information found on Crunchbase and PitchBook)

Company	Country	Amount (US$)	Stage	Date
GRO Intelligence	Kenya	$85 Million	Series B	January 2021
Twiga Foods	Kenya	$29.4 Million	Debt	October 2020
Aerobotics	South Africa	$16.5 Million	Series B	December 2020
Apollo Agriculture	Kenya	$6 Million +	Series A +	May and
		$3.6 Million	venture round	December 2020
East Africa Fruits	Tanzania	$2.1 Million +	Series A +	May 2020
		$1.1 Million	Debt	
Good Nature Agro	Zambia	$2.1 Million	Series A	October 2020
swiftVEE	South Africa	$1.5 Million	Series A	November 2020

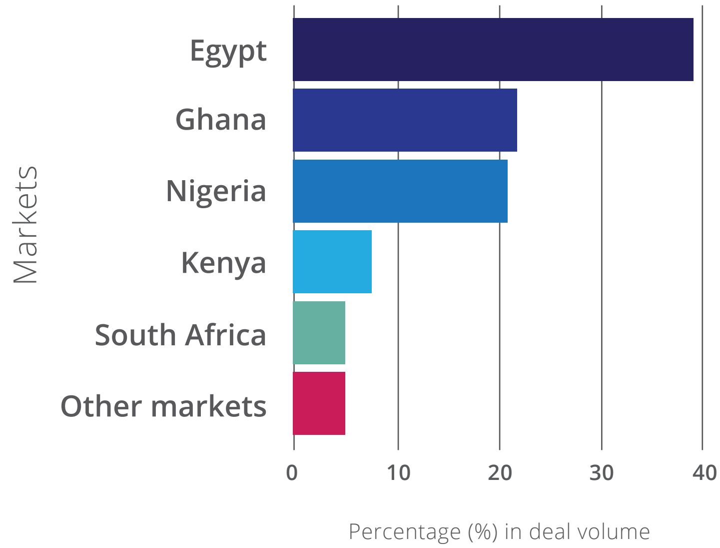
KEY TAKEAWAYS

- In order to achieve sustained food security and growth in the agriculture sector, tech-enabled solutions have to consider all aspects of the value chain, including access to markets, insurance, financing, knowledge, and increasing outputs.
- The gathering and utilization of data will prove to be very valuable in increasing the knowledge and productivity of farmers across the continent, and this is reflected by the large investment deals towards startups with AI-powered solutions.

Equity funding in Africa's Healthtech sector in 2020 total US$141M.

95% of the equity deals come from "the big 5" tech hubs.

Source: Partech



Healthtech

Despite the fragile health systems in Africa, there's a growing number of digital-based initiatives (commonly referred to as "healthtech") to fight against recurrent infections and diseases. Owing to an increasingly connected, mobile-first population, healthtech is booming in Africa.

Across the continent, startups are using tech-based solutions to help tackle the challenges in delivering high-quality healthcare, particularly to rural and resource-deprived areas. Digital-based projects are emerging across the continent, tackling issues such as: telemedicine and eLearning projects; use of mobile phones to support the delivery of healthcare, awareness and education; remote data collection; remote monitoring and home care; communicating treatments to patients; and reporting and responding to disease outbreaks and emergencies.

According to Partech Reports, startups in healthtech received $189 million in funding in 2019, and $149 million in funding in 2020 - representing a decrease of 25% YoY. Despite this decrease, the number of deals in the sector increased sharply by 115%.

Healthtech is broad. The above startups vary in their sub-sectors. A general consensus on which sub-sector attracts the most customers, partnerships or investment is difficult to pinpoint. Nevertheless, it can be argued the economic and social-impact performance of sub-sectors can be determined by the region in which it operates. Investment into healthtech startups, like many other sectors, is not equally distributed, particularly on a region-to-region basis. Research done by Briter Bridges in the first quarter of 2020, reveals that Africa's major economies, Nigeria, South Africa, Egypt, and Kenya, feature a greater diversification in the value chain of healthcare provision compared to their

Major deals in the African health/e-health sector in 2020

Compiled by AfricArena (deal information found on Crunchbase and PitchBook)

Company	Country	Amount (US$)	Stage	Date
Vezeeta	Egypt	$40 Million	Series D	February 2020
mPharma	Ghana	$17 Million	Series C	May 2020
54gene	Nigeria	$15 Million	Series A	April 2020
Helium Health	Nigeria	$10 Million	Series A	April 2020
Ilara Health	Kenya	$3.75 Million	Series B	December 2020
Field Intelligence	Nigeria	$3.6 Million	Series A	March 2020
Healthlane	Cameroon	$2.4 Million	Convertible note (post Seed round)	May 2020
Rxall	Nigeria	$1 Million	Seed	February 2020

continental counterparts. As the larger economies, these countries have the benefit of having a bigger middle-income market that can afford varied healthcare services. This research reveals that the higher income countries in the continent have a greater quantity of niche and specialised healthcare startups, these include: diagnostics and monitoring tech; booking platforms; big data and analytics; medical supply chain; biotech, and lifestyle platforms. Nevertheless, compared to previous years, the healthtech sector saw a better distribution of capital investment, owing to the adoption of digital health services during the pandemic.

Egyptian startup Vezeeta secured one of the biggest rounds recorded in the continent for an e-health provider. Established in 2012, Vezeeta is one of the leading e-health platforms in the Middle East & North Africa, reaching around 4 million patients across 4 countries, enabling them to search, book and review doctors and medical services. On top of this B2C offering, they also provide a Saas solution to 30,000 healthcare providers. What has allowed Vezeeta to be a trusted e-health platform is the functionality of allowing patients to effectively see Uber-style ratings for healthcare providers, thus encouraging the providers to improve their services.

"Only data and technology can produce the required responsiveness and agility to tackle health challenges of this magnitude. It has never been more imperative for Africa to build a modern and digitised healthcare system." (Adegoke Olubusi, Co-founder and CEO of Helium Health).

Another B2B e-health provider, Helium Health, secured a rich Series A, of $10 million, round that came at an ideal time. Their online platform helps hospitals and clinics in Nigeria to manage their electronic medical records, an essential function that became even more important during the pandemic. With the capital boost, Helium Health is able to enhance its offering to the public and private healthcare sector in West Africa. These include, a billing and payments solution for healthcare facilities; a product that allows facilities to analyse their operational, clinical and financial performance data; a product that reduces fraud and simplifies the health insurance claims process; an app that helps healthcare facilities manage patient engagement and retention; and a telemedicine platform[29].

Telemedicine has seen a massive uptake in adoption in the last year, as digital platforms, such as Healthlane (Cameroon) and RecoMed (South Africa), connected consumers and healthcare providers/ services. The main question around e-health services is whether consumer habits will continue to prefer virtual health solutions as the world begins to normalise post-COVID.

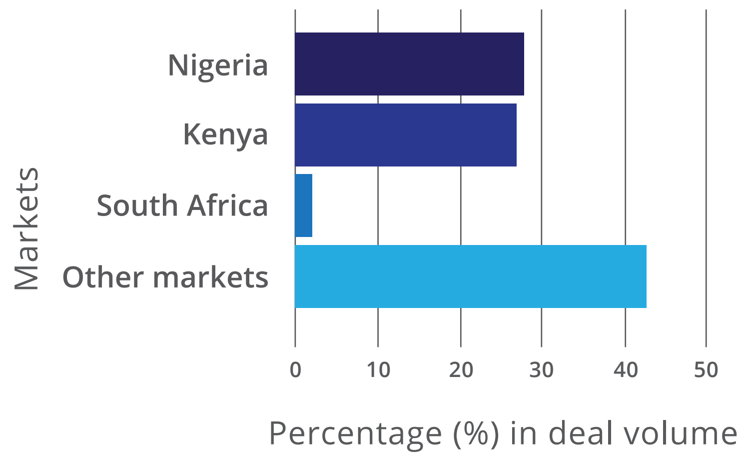
KEY TAKEAWAYS

- Venture capital deals in the healthtech sector in 2020 were more diversified geographically than previous years - showing opportunity for financing promising startups operating in fragile healthcare systems in the continent. This is further supported by the 115% increase in the number of deals done.

29 How agritech is sustaining Africa's food supply in the middle of a global lockdown. TechCabal. Kay Ugwuede. April 14, 2020.

Equity funding in Africa's Off-grid/ energy sector in 2020 total US$148M.

57% of the equity deals come from 3 major tech hubs.



Source: Partech

Off-grid tech

In total, an estimated 600 million homes in Africa still do not have access to reliable electricity. However, the application of renewable energy technology has the potential to bridge this gap, with a surge of startups emerging with innovative solutions and approaches. Technologies, products or facilities that do not rely on connectivity to a main electric grid to function, but rather, use alternative power options, are commonly referred to as "off-grid". An alternative energy supply that has emerged as a predominant solution in recent years is off-grid solar solutions harnessing Africa's abundance in solar to produce energy.

Over $148 million was invested into startups in the off-grid sector in 2020 (Partech). Noticeably, the vast majority of funded startups in off-grid tech deploy solar fintech solutions. The dual opportunity that exists stems from the reality that many households/individuals that rely on non-renewable energy are also financially excluded from the formal economy (financial and insurance services, etc.). Given this, there is a transformational economic impact being made by companies providing clean energy solutions, as a payment collection system is embedded into the exchange. As stated in the report by Kleos Advisory (2020), *"the combination of solar and fintech is driving an economic transformation in Africa, making the 'unbankable' bankable and embedding African consumers in the digital economy."*[30]

Investment data shows that off-grid investments in Africa, particularly in East Africa, have traditionally been an ideal destination for impact investors and DFIs, more than traditional venture capital.

One of the biggest investors in this sector is FMO, the Dutch entrepreneurial development bank, that has 50+ years of experience in sustainable private sector investments in emerging markets. FMO comments, *"[Energy] is a challenging sector, but it's also a very important sector for a development bank. We think energy access is a crucial sector to contribute to and we feel that the decentralised solutions are part of the bigger solution."*

30 https://ventureburn.com/2020/05/helium-health-raises-10-m-round/

Traditionally, off-grid tech startups tend to raise larger rounds given the need for larger amounts of capital to reach real scale and the slow path to profitability for business models usually built around providing access to power to low-income populations via pay-as-you-go services. Further to this, because customers cannot pay for a solar system upfront, it means the companies must carry that debt on their balance sheet, which means scale is necessary in order to mitigate the high fixed costs. This would explain why most VCs stay away from the energy sector and leave it to impact investors such as DFIs.

Major deals in the African energy/off-grid sector in 2020

Compiled by AfricArena (deal information found on Crunchbase and PitchBook)

Company	Country	Amount (US$)	Stage	Date
Daystar Energy	Nigeria	$4 Million +	Debt +	February 2020 +
		$38 Million	Series B	January 2021
Sun Culture	Kenya	$14 Million +	Series A +	February 2021
		$11 Million	Debt	
Solarise	Kenya	$10 Million	Series B	September 2020
Oolu	Senegal	$8.5 Million	Series B	December 2020
Easy Solar	Sierra Leone	$5 Million	Series A + Debt	September 2020
Yellow	South Africa	$3.3 Million	Series A	May 2020
Rensource	Nigeria	$3 million	Undisclosed venture round	January 2020
Energy+	Mali	$1 million	Debt + grants	August 2020

KEY TAKEAWAYS

While a variety of technologies/products/services are considered part of the off-grid ecosystem, solar home systems have been the most popular segment from an investment perspective, and particularly pay-as-you-go systems.

- Africa's energy sector speaks more to impact investors than traditional VCs, and that is a trend we can expect to continue.
- Investments into off-grid/energy solutions are more diversified geographically than most sectors.

5.3 Surviving and thriving in uncertain times: Startup profiles

Company	**OZÉ**
	www.oze.guru
Geography	Ghana and Nigeria
Sector	Fintech
Main hustler	Meghan McCormick (CEO)

Funding history US$1.4 Million over 2 rounds. US$655 000 in Pre-Seed (completed in July 2018) and US$750 000 in Seed (completed in January 2021)

Small businesses rarely grow, particularly in Africa. This is the mammoth challenge that Meghan McCormick is missioned to tackle through her Ghana-based company, OZÉ.

Upon further investigation into the problem, while working with small businesses in Benin and Guinea, Meghan realized that one of the blockers of growth was that records were being kept on paper, if at all. This meant that the data wasn't used for decision-making and that it also couldn't help the entrepreneur to get access to loans and other investments.

There is a high proportion of African firms in the informal sector. The productivity gap between registered and unregistered firms in a study of 24 African countries is estimated at around 120%[31]. Informality limits investment options, because it is illegal to invest in unregistered firms. This impedes economic growth. The informal sector generates about 55% of sub-Saharan Africa's GDP and employs around 80% of the labour force. This implies that most of sub-Saharan Africa's economic output is closed to investors[32].

"The first step we took was to see if business owners that I was working with would record sales and expenses in their phones and share that data with a third party in exchange for advice. I ran that first prototype in July of 2016 before starting graduate school and worked on the idea while in school launching our product into Ghana in May of 2018."

"Small businesses make up the majority of firms on the continent and their needs are not being met across multiple verticals. We calculate that OZE which provides record-keeping, access to credit, and payment processing (coming soon) tackles an $18bn market." (Meghan McCormick)

OZÉ sees the adoption of digital business tools fundamentally as a behavior change challenge and not a technology challenge. Their main focus is building a tool that helps small business owners for habits around record-keeping, data-driven management, and an analytical mindset in general. Secondly, OZÉ is optimized for cash transactions. While there is a lot of hype around digital payments (and rightly so), most MSMEs still transact in cash. They are trying to digitize not just payments but information about cash flows.

How does OZÉ go about acquiring customers, and what is the kind of feedback have they received so far from your early-adopters?

31 https://www.azuri-group.com/off-grid-solar-in-africa-is-a-24-billion-opportunity-says-report/
32 https://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/Africa_SME%20web.pdf

Meghan says, *"After Facebook ads, most of our customers actually come through referrals from our existing customer base. One reviewer of the app said, 'Wow, the new interface is truly impressive. I was eagerly waiting for this and now that it is here, it was worth the wait. Thumbs up for a good job done!'"*

Further to this, Meghan says, *"We see our customers at this phase in the company as our partners. They have helped us to co-create the features in the app, always make themselves available for usability testing, and provide a supportive community for our team and each other. I'm so incredibly grateful that they have put their confidence in this little startup and I try to pay them back by making an app that is fun and easy to use and leads to tangible improvements in their business."*

Since OZÉ launched its beta app in Ghana in 2018, a growing number of active users and paying subscribers have recorded more than 250,000 transactions in the app (with a value of more than $50 million). In 2020, OZÉ piloted a small loan portfolio with no defaults and a projected annual 43% ROI. In 2019, 97% of business owners that used OZÉ consistently were growing and/or profitable. What Meghan and the OZÉ team want to prove in 2021 going forward is that access to affordable capital can accelerate the progress a business owner is already making when using the app. In 2020, they also launched pilot tests in Nigeria.

On 13 January 2021, OZE announced closing $700k in capital from a seed round with investment from Anorak Ventures and Matuca Sarl and angel investors including Nigeria's Rising Tide Africa along with existing investors Ingressive Capital and MEST. The company said it will use the funding to grow their team, expand to Nigeria, and promote the newly launched iOS version of it's business app.

"I couldn't be more excited about what's next for OZÉ," says Co-founder & COO, Dave Emnett. "We're integrating with Paystack and other PSPs to allow our SMEs to accept and send payments through the app and partnering with more financial institutions to expand on the success of OZÉ's approach to lending."

Aerobotics

Company	**Aerobotics** www.aerobotics.com
Geography	South Africa
Sector	AI and agritech
Main hustler(s)	James Paterson (CEO) & Benji Meltzer (CTO)

Funding history US$27 million in total funding, over 8 rounds, with recent being a US$17 million Series B (completed in December 2020).

Food security is critical to the sustainability of markets worldwide. Aerobotics, founded by James Paterson and Benji Meltzer in 2014, addresses the issue of food security by starting at the source - the farming sector. It's platform uses AI, drones and software to help farmers manage crop health and predict crop yield. To date, Aerobotics has helped farmers manage over 81 million trees with clients in 18 countries, including Africa, USA, Spain, and Australia.

Speaking on the state of agritech in Africa and how it has evolved in recent years, CTO, Benji Meltzer comments, *"When Aerobotics started (in 2014), there was already a reasonable amount of innovation in the space - albeit quite heavily focussed out of East Africa. Since then, we have seen a lot more happen in the sector, fueled by injections of external capital into all of the key markets in Africa. More and more, we are seeing a uniqueness in African agriculture problems & challenges that justifies the need for locally built solutions."*

Further to this, Meltzer says, *"Agriculture is an extremely risky industry, with a huge number of variables contributing to the crops performance."* The solutions provided by Aerobotics speak to a key challenge faced by farmers: limited data and insufficient analytical tools to generate insights. Their tools allow farmers to mitigate against risk through early problem detection, leading to actioning corrective interventions, reducing resource allocation and costs, and increasing harvest potential - helping farmers optimize their production.

When COVID-19 hit, Aerobotics was mostly affected in its logistical operations. Their commercial and operational teams were not able to travel as much and get on the ground with farmers and clients. Despite this, Aerobotics was able to shift to digital sales and support - a difficult shift for a traditionally offline and in-person industry. Long term, Aerobotics does not see any major risks around the survival of their business - food security remains a critical function everywhere in the world.

International investors validate the AI-powered solutions brought by the Cape Town-based startup. The company recently received a $17 million in a Series B round led by tech giant, Naspers with participation from Platform Investment Partners, FMO: Entrepreneurial Development Bank, and Cathay AfricInvest Innovation. The capital will be used to improve the company's AI-based technological platform, thus enabling it to expand across the US, its main market, and other markets worldwide.

Their $17 million raise represents 9.5% of the total funding that went into startups in the agritech sector in 2020 - a phenomenal feat for a startup outside of East Africa.

Previously, the startup had raised $600,000 from 4Di Capital and Savannah Fund as part of its seed cycle in September 2017, followed by an additional $4 million in Series A financing in February 2019, led by Nedbank Capital and Paper Plane Ventures. This makes Aerobotics one of the most funded startups in Africa.

Speaking on their Series B raise, the Aerobotics confirms that raising more capital was already in the pipeline prior to COVID-19 - the pandemic accelerated this process. During the due diligence process, the Aerobotics team were mindful of the circumstances and how it would affect their round. Meltzer says, *"We had to prove resilience to the current conditions which obviously wasn't a factor pre-COVID-19. Proven sustainability also became a core requirement from our investors (however this would likely have been the case given the stage of our business anyway)."*

These are certainly challenging times

for startups, and raising capital is not an easy feat. The Aerobotics team gives advice to startups seeking funding to sustain themselves:

"There is no lack of deployable capital in the market. Startups need to ensure that their pitch communicates resilience and robustness to the current economic climate. Capital raising can be extremely taxing on a startup (with the time and headspace required), so we would typically recommend raising more capital, quicker to allow the space to focus on the business (obviously only if the opportunity exists and the circumstances allow for this). Additionally, we would suggest looking at alternative funding sources (such as grant funding, debt instruments, etc) - where we have noticed increased interest for African-based startups - given limited investable opportunities."

ILARA HEALTH

Company	**Ilara Health**
	www.ilarahealth.com
Geography	Kenya
Sector	Healthtech
Main hustler	Emilian Popa (CEO)

Funding history US$5.6 Million over 3 rounds. US$735 000 in Seed (completed in August 2019); US$1.1 million in Grant (completed in October 2020), and US$3.8 Million in Series A (complete in December 2020).

"We have been following the underserved health space in Africa for quite some time. While this is one of the areas on which African consumers spend the most, the quality of health outcomes needs to improve. The challenge of bringing affordable and high-quality diagnostics to the actual points of care is yet to be solved." Ido Sum, Partner at TLcom said.

TLcom Capital was the lead investor in Kenyan e-health provider Ilara Health's $3.8 million raise in 2020. In just under a year of operation, Ilara Health has raised $5.6 million in funding over 3 rounds - funders including Shaka Ventures, DOB Equity, Global Ventures and Chandaria Capital, and a grant from the Bill & Melinda Gates Foundation.

Around 70% of patients need some form of medical test to inform their treatment, but many doctors across the continent have limited ability to perform diagnostics in their clinics[33].

"When a patient needs a test, doctors often refer them to a lab. Given the infrastructure challenges across the region — the time, the money it takes to get anywhere — patients frequently fail to attend and care breaks down," says Ilara Health CEO, Emilian Popa. With this major challenge in mind, the mission of the startup is to empower primary care doctors in peri-urban and rural clinics, with diagnostics that can be life-saving to their patients.

The startup's diagnostic devices are bundled with Ilara Health's proprietary electronic medical record (EMR) systems which records patient data and helps doctors to provide effective patient management. Further to their raising, Ilara Health has seen the incredible impact their platform has had in delivering improved services across maternal, metabolic, cardiovascular and infectious disease care in Kenya.

The short-term fears Ilara Health amidst the pandemic was having a massive drop in patients visiting clinics, which in turn would result in clinics being unable to use (and pay for) the diagnostic devices that Ilara Health leases to them. Another scenario that the startup considered was the potential need for respirators - a shift from metabolic diseases diagnostics to COVID-19 / infectious diseases.

This shift would result in a loss of revenue for Ilara Health as a diagnostic company focused on non-communicable disease, but potentially opening other short term revenue streams (respirators or ventilators). This did not happen eventually. Long-term, their fears were the possibility of the deterioration of patients' purchasing power, resulting in a cut in healthcare spending. Fortunately, as asserted by Emilian Popa, that hasn't happened yet. Instead, healthcare spending equals pre-COVID-19.

Ilara Health's primary focus post-funding is expanding its diagnostic reach across the continent and also accelerating the development of its integrated patient health management platform. In 2020, Ilara Health went from partnering with 15 facilities at the beginning of the year to over 200 by year-end, and will look to expand across wider Kenya and a new East African market within the next 12 months.

Company	**Arnergy** www.arnergy.com
Geography	Nigeria
Sector	off-grid tech
Main hustler	Femi Adeyemo (CEO)

Funding history US$9 million in Series A (completed in June 2019)

Arnergy is a distributed utility company that provides energy solutions tailored towards emerging markets. Its distributed renewable energy systems harness a combination of solar power, superior storage solutions and proprietary remote management technologies to deliver scalable, reliable and affordable energy solutions.

Since launch, Arnergy has delivered over 2MW of installed capacity and over 5MWh of storage capacity to business and residential clients across Nigeria, and it has now raised US$9 million in Series A funding to further increase its impact.

The round was led by Breakthrough Energy Ventures with participation from the Norwegian Investment Fund for Developing Countries (Norfund), EDFI ElectriFI and All On, and will assist Arnergy in scaling its business. Its ambitions include new business models and partnership opportunities, as well as consumer financing and channel expansion activities.

"We are excited to enter this next phase in Arnergy's development with investors that share our vision of tackling the most pressing energy challenges across emerging market economies, starting with Nigeria. We believe that energy needs in Nigeria have surpassed rudimentary requirements of low power utilisation and our product offerings are solving for reliability and not just access," said Femi Adeyemo, founder and chief executive officer (CEO) of Arnergy.

Carmichael Roberts of Breakthrough Energy Ventures said Arnergy inherently understood the West African market and its need for power reliability.

"Creating accessibility to reliable renewable energy sources is paramount to economic growth in this region. With Arnergy's technology, we can significantly decrease carbon emissions and it's a model that can be replicated all over the developing world," Roberts said.

Launching a startup in uncertain times: ZuriHealth

ZURIHEALTH

Company	**Zuri Health** www.zuri.health
Geography	Kenya
Sector	healthtech/m-health
Main hustler(s)	Arthur Ikechukwu Anoke (CEO), Daisy Isiaho
Launch	March 2020
Capital raised:	Bootstrapped.

Zuri Health's mission is to provide certified, affordable and accessible healthcare solutions via mobile with dedicated apps, wap and SMS services based on availability, location and specialization of the medical providers.

Users will have access to a myriad of professionals and services from across their home counties. They are able to book appointments instantly with any medical professional or hospital within their geographic regions, book laboratory tests, chat with the practitioners via both message and video as an added feature and request for home visits by the Licensed and Certified Medical Practitioners.

Under the "Pharmacy" function, users can get their prescription and over the counter medication online and have it delivered to their doorstep. Under the SMS service functionality, Zuri Health has been designed to reach a wide range of users who may not have access to WAP or internet enabled devices. The mobile app also helps doctors to tap into a wider market of on-demand patients and earn extra money while saving lives.

The app's code was written with the daily challenges patients face in the journey of seeking affordable and accessible healthcare solutions. They solve the problem of expensive and inconvenient hospital trips for small or minor diagnosis and prescriptions, long waiting times and queues during doctors' visits and appointments scheduling and booking which can be tasking.

Co-founder and CEO, Arthur Ikechukwu Anoke says, *"Zuri Health App is very personal to me. Millions of people in Africa do not have* *access to quality medical care. At Zuri Health we have taken time to develop a product that will fill that gap, giving doctors a wider and easier platform to reach patients who need them. With Zuri Health the underserved populace can now access affordable and sustainable healthcare."*

Zuri Health Co-founder and Project Manager, Daisy Isiaho, gives further insight into building a healthtech startup during this climate.

What is missing in the mhealth space in Kenya that compelled Zuri Health to be founded?

Zuri Health is probably the most comprehensive mobile health app on the continent. It is a virtual hospital that gives patients the opportunity to chat with a doctor, buy medication from a pharmacy, book labs and diagnostic tests and have a doctor visit you at home.

Zuri Health also takes into cognisance Africa's unique challenges and offers first level doctor consultation via SMS and the cost is slightly higher than an average SMS. This takes care of the over 65 percent of the population without access to smart devices and the internet.

Zuri Health was founded during the early stages of worldwide lockdowns due to COVID-19 (12th February 2020). What impact did this have on your launch and plans for 2020 and 2021?

It was very difficult building it out during the pandemic. It was hard securing funding, and also our developers in Nigeria had to battle with power and internet outages, which hindered the completion of our first product.

At the moment, the Kenyan healthtech startup plans to bootstrap their operations to profitability, whilst raising funds via convertible notes for the first year as they work towards a valuation for the business in 2022.

Since the beta launch in November 2020 the company's predicted three year growth plan is to have more than 20,000 registered doctors listed, 250,000 premium users and at least 1,000,000 mobile downloads.

6. Corporate open innovation: the missing link to foster innovation in Africa?

"Corporates have a huge role to play in creating opportunities for startups in the ecosystem. Commercial partnerships (or direct customer relationships) are necessary to help startups with their go-to-market evolution, which can often be slow and expensive in the African ecosystem." (Benji Meltzer, CTO at Aerobotics).

On the subject of startup support in Africa, a key player that has the tendency to be missing in action is the corporate sector. Looking at deals such Paystack-Stripe (2020) and Visa-Interswitch (2019), it shows the relevance of big corporates in the startup ecosystem - an open innovation practice in which not enough corporates are engaged in. A few global corporates have stepped in to empower Africa's tech startups through corporate open innovation programs. As we will see in this section, such programs have different maturities or degrees of development depending on the corporates' objectives. These programs, when well executed, have the potential to add tremendous value to corporates and startups, unlocking companies' potentials through innovation. Proof of concepts, partnerships, market access, market intelligence or even venture capital, the options are plentiful and will vary from one program to another.

But what is corporate open innovation? The practice of corporate open innovation, also used as a buzzword

Different models of incorporating open innovation

Compiled by AfricArena (deal information found on Crunchbase and PitchBook)

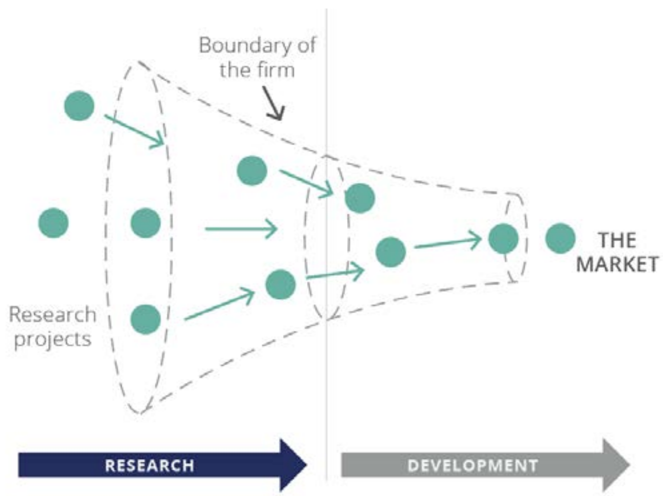
Open Innovation	Type	Definition
Inflow	In-sourcing	Use of external knowledge to stimulate internal innovation and reduce time-to-market
	Venture investment	Investing in promising startups to get new ideas and reduce time-to-market
	Customer involvement	Finding new ideas by involving customer feedback
Two ways	co R&D	Conducting R&D activities with external partners
	Alliances and M&A	Building alliances with new businesses or buying them
Outflow	Licensing-out	Granting licenses or selling unused technologies to external business
	Spin-off	Spinning off internal organisations to market
	Open-sourcing	Granting free access to an internal project

with several different meanings, is worth further investigating as a means to accelerate Africa's tech ecosystem. The first main component of the theory is that businesses do not have access to all the tools that the industry has to offer.

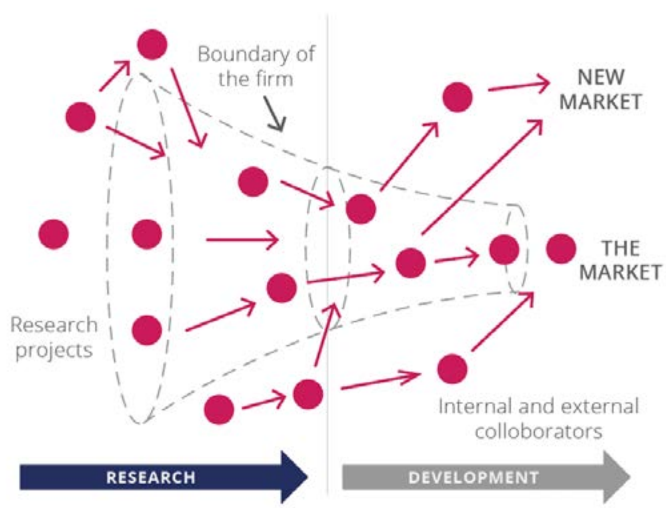
"Corporate open innovation is the ability of an organisation to bring on new ideas from two approaches: external (competitors, academia, start-ups, think tanks, etc.). This is known as the "outside-in" form of open innovation. That means looking externally to bring innovation into the organisation. Furthermore, the inside-out form of open innovation involves an organisation sharing particular ideas with the ecosystem. Open innovation acknowledges that organisations can't always innovate sustainably on their own. Relying solely on internal research and development teams' limits product and service ideation is costly, and can take too long." Benjamin Edwin, Project & Sales Manager, Bosch Mobility Solutions Africa.

"It's about opening up your innovation programs to incorporate work that external parties are working on that's relevant to your innovation initiative, so that you have not just internally developed innovations, but also that you are able to leverage externally created innovation." (Llew Classen, Managing Partner, Newtown Partners).

Closed innovation



Open innovation



Henry Chesbrough, who was the first to do comprehensive research on open innovation and who is presented as a leading authority on the subject, wrote in his research paper Open Innovation: Researching a New Paradigm (2006) that "Open Innovation is the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively."

"This paradigm assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology." From this definition, and according to Moo Ahn et al, Institut Open Innovation, there are two ways of doing Open Innovation: Inflow (In-sourcing, Venture Investment, Customer Involvement) and Outflow (licensing-out, Spin-off, Open Sourcing).
As an open innovation platform in Africa, AfricArena has gathered valuable experience and data to participate in open innovation programs, especially in the areas of in-sourcing, venture investment and R&D. With numerous international companies such as the Air France KLM Group, Sanofi, Engie Africa, Vinci Energies, Old Mutual, among many others, we have had the chance to run dozens of Open Innovation challenges in the last 4 years. Various verticals from Cleantech and Fintech to Healthtech and Blockchain covered our Open Innovation challenges - the spectrum is broad. Find the full list of our Open Innovation challenges below.

KEY TAKEAWAYS

- Open Innovation is a process that leverages both inside and outside the corporate limit.
- Open innovation programs include various operations, from POCs to partnerships to equity investment.

"This paradigm assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology."


HALL B
DEEP-DIVE


Conclude beta testing

7. Corporate Open Innovation: where are we standing?

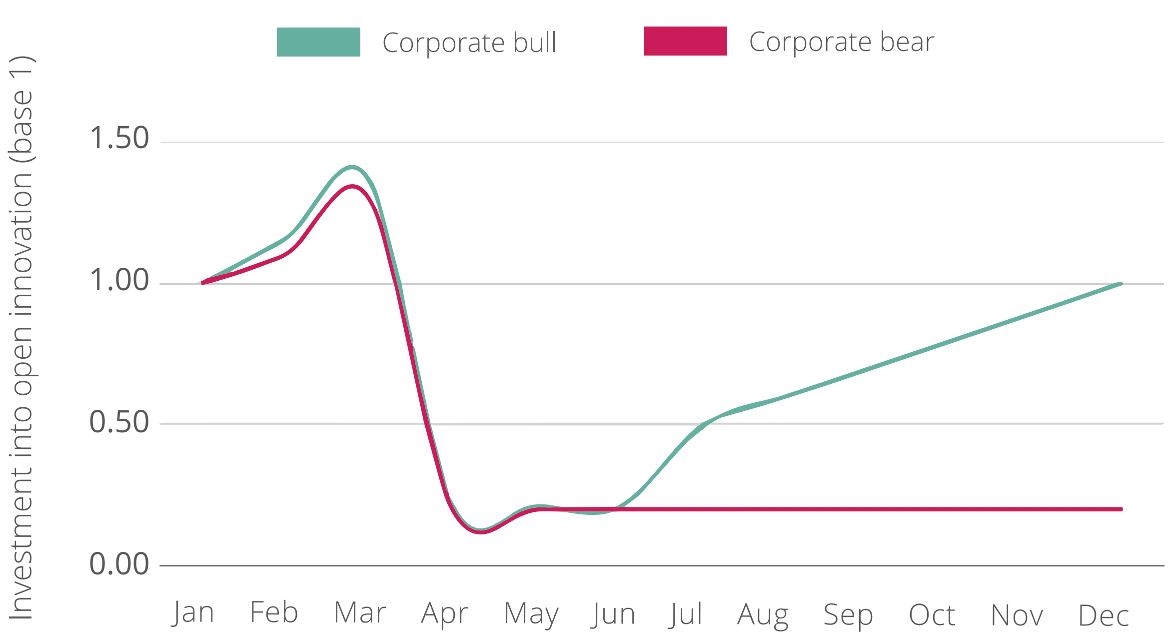
i. What happened in 2020?

When we wrote our ***2020 State of Tech Innovation in Africa*** report at the beginning of last year, the general outlook that corporates gave us was extremely positive regarding the progress that would be made in the corporate open innovation space. As COVID-19 hit in the first months of 2020, we noticed that even though staying innovative might be the solution to keep a business relevant in challenging times, most corporates put their innovation programmes on hold.

When we asked the question to Rajiv Daya, Head of Investments at Founders Factory Africa, he told us that *"... we need to bear in mind that a public corporate is accountable to public shareholders, and therefore has to prioritise the short-term implications of their decisions, especially during a crisis. Public shareholders need certainty given the stakeholders they represent (e.g. pension funds). Q1 2020 was filled with uncertainty, and it (naturally) became difficult to prioritise long-term initiatives such as innovation/start-up partnerships."*

That reaction, putting the innovation on the back burner, is a common pattern we found while interviewing different open-innovation corporate departments throughout Africa and Europe. During the first months of the pandemic, most (if not every) corporate put their open innovation programmes on hold, focusing their resources on other elements of their

Two different fighting-the-fire strategies in 2020



business. By doing such, they sent the signal that open innovation was not one of their core components and therefore not vital in times of crisis.

"As the year progressed and the pandemic deepened, corporates realised that the agility embedded in a start-up's DNA would actually be an invaluable asset which couldn't be overlooked, even amidst a crisis (in fact, this became abundantly clear BECAUSE of the crisis). And we started to see this play out in strategic stakes being acquired in start-ups and a huge focus on corporate innovation in H2 2020. The reality is that we have valuable resources within corporate structures that are necessary to unlock a combination of short-term (existing corporate solutions) and long-term (new solutions driven by the market) approaches to innovation and job creation, which must happen in parallel through partnerships."

At the same time, other corporates showed more interest in open innovation as part of their long-term strategy in an uncertain environment where they had to adapt the way teams work with each other. This finding needs to be put in perspective by the fact that some corporates have decided to take the opposite decision and have stopped most if not all of their open innovation programs until further notice. We even noticed some reorganisation or even layoffs in the open innovation departments throughout 2020. We believe that this difference in strategy from one corporate to another will lead to a gap in competitiveness in the mid to long term. One of the managers interviewed for the purpose of this report admitted that his company "slammed the brakes" regarding corporate innovation in 2020. However, during our research, we noted that managers expressed a positive outlook and we anticipate a bullish trend for 2021, with more and more corporates aware that developing or enhancing comprehensive programmes to foster internal and external innovation may be the solution to stay agile in complicated times.

KEY TAKEAWAYS

- As the first months of 2020 looked very promising, the COVID-19 crisis dashed all hopes.
- In the first months of the COVID-19 crisis, corporates tended to dramatically reduce their open innovation spending, followed by an uneven recovery.
- Some corporates have understood that the next bit of growth will come from those disruptive innovations they were looking at through their open innovation challenges.

ii. How could corporates better engage with early-stage startups?

During our research, we have asked multiple corporate open innovation managers how their company could better engage with early-stage startups. The outcome is that it is not one size fits all. Every company is different, operates in an industry that requires specific characteristics to stay competitive and has different objectives to be achieved through their open innovation program. In South Africa for example, as noticed by Grace Legodi, Country Manager at Plugnplay, corporates tend to have an appetite for more mature startups. They are not too interested in startups that are very early stage (i.e ante-MVP). Corporates rather want to get straight into the implementation phase (i.e. pilots).

As mentioned previously in this section, some corporates do not have the same objectives nor the same time-frame. Nonetheless, in every situation, it is important for the corporates to have frank discussions from the very beginning, within the company and with the startups, in order to clearly identify what are the objectives both want to achieve and how they should be achieved. This assertion may sound trivial, but we saw so many times corporates engaging with startups while objectives were not clear. Between the corporate and the startup, a mutual expectation needs to be made. Having frank discussions at every stage of the program, with key players from the relevant departments is the key. It is often that when we speak with the founders from our community, they tell us that their last meeting which was supposed to be about tech integration, ended up with the corporate marketing team!

Often when startups engage with corporates, through open innovation programmes or otherwise, the expected value as well as the value proposition on both sides are vague. It is important to dissect the various elements, refine, and then make a decision on whether there is a possibility to engage, and what the best way would be. The risk of not having those discussions off the bat, is that one side misses a line which will lead to a plan doomed to fail. Unfortunately, we have heard many of those stories where at the end, the startup and the corporate are frustrated.

KEY TAKEAWAYS

- Corporates need to have a clear leader of the innovation program with enough leverage within the company to make things happen while avoiding red tape.
- Frank discussion must happen at every stage of the program in order to have clear objectives and time frame on both sides.

iii. Directly with the startups: POC, Demo day (Bosch)

Corporates have many ways to engage with early-stage startups. These ways as well as the different programs have been detailed in our 2020 State of Tech Innovation which is available on the AfricArena website. In summary, corporates can engage with startups by developing partnerships, proof of concepts (PoC), incubating startups in an accelerator (within the company or third party) or by taking an equity share (venture investment).

Components: Partnerships - Incubator/ Accelerator - PoC - Equity investment

Since the inception of AfricArena in 2017, we have noticed that PoCs are usually the way to go in open innovation programs. That said, Benjamin Edwin, Project and Sales Manager at Bosch Africa reminds us that *"it's not always necessary to do a proof of concept as the way to initiate the partnership. We have noticed that sometimes it doesn't make sense for the organisations and rather need to be avoided as the whole idea is that early-stage startups need to utilise resources very carefully."* This assertion echoes with an issue often raised by founders in our community where they spend months (if it is not years) to develop a PoC with a corporate that actually struggles to carry it through within its organisation. The reasons for this failure are various, though as mentioned in our previous section, it usually comes from a misalignment of the objectives straight from the beginning that a weak communication failed to reveal.

Gustavo Raiter, Business Development Lead, at Microsoft 4Afrika confirms the importance of early-stage startups for corporates by clarifying that *"the majority of the company ecosystem is based on them [early-stage startups] while having those providing all general and niche solutions optimized for Microsoft infrastructure."* Those synergies have been possible thanks to the creation of the right environment such as technical, business and lawful wise.

In addition to the right environment comes a deeper form of partnership, the equity investment via Corporate Venture Capital (CVC) funds.

KEY TAKEAWAYS

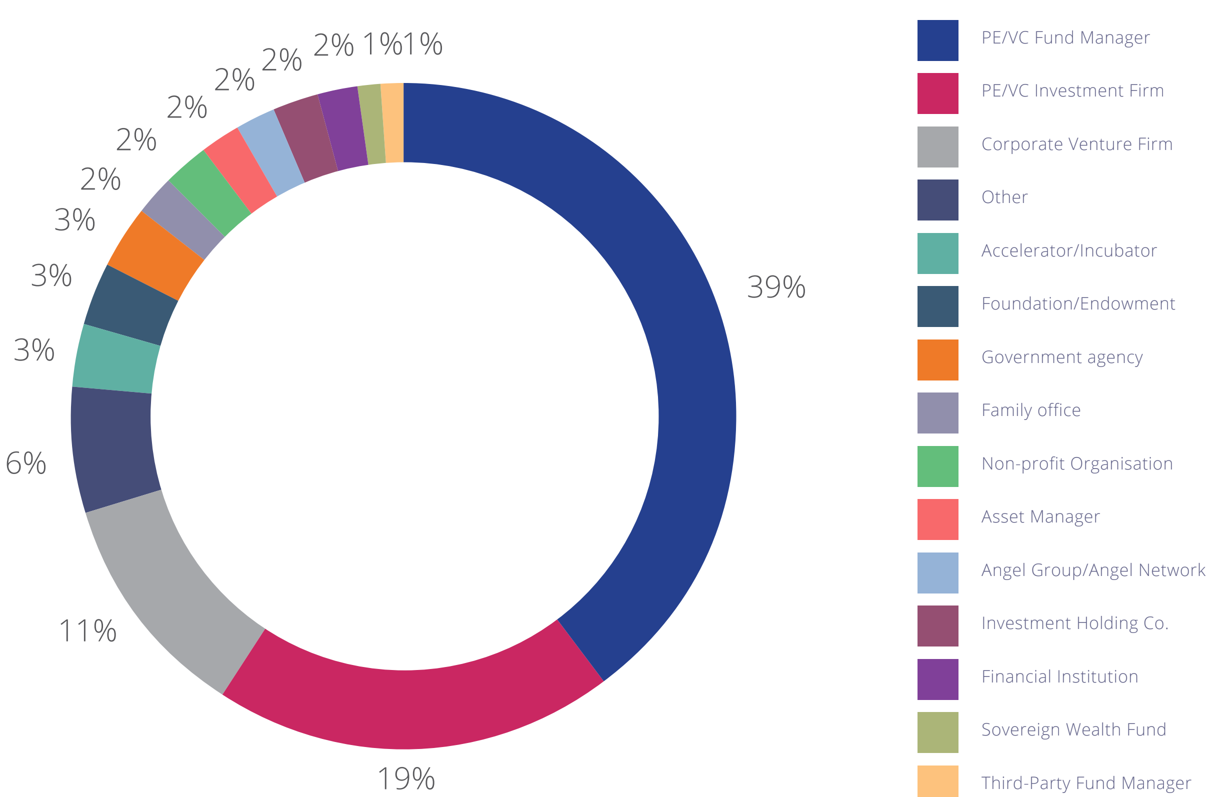
- Corporates can engage with early stage startups through POCs, partnerships, via a tech hub (accelerator or incubator) or equity investment.
- The preferred way for corporates to engage with early-stage startups remains POCs followed by partnerships.

iv. Link between corporate innovation and Corporate Venture Capital

Corporate Venture Capital (CVC) is a practice where a large firm takes an equity stake in a small but innovative or specialist firm, to which it may also provide management and marketing expertise; the objective is to gain a specific competitive advantage. Capital invested through CVC funds is on the rise. During the past decade, major companies have both been motivated and challenged by technology startups that have launched new business models, products and services.
During the COVID-19 pandemic, many of these digital solutions, which were already in demand, saw a significantly increased speed of consumer adoption. Corporates may employ venture investment to speed up their own digital journeys, selecting from various approaches ranging from investing off-balance sheet, setting up a dedicated internal fund, to establishing a separate fund with multiple limited partners (LPs). As this proves more successful for them, most corporates inevitably end up with a separate fund structure and multiyear capital commitment. CVC funds are analyzed as a key strategy for corporates to invest in up-and-coming companies and other cutting-edge innovations.

Share of investors participating in VC deals in Africa by type, 2014 – 2019

Source: https://www.altassets.net/wp-content/uploads/2020/06/01746-avca-venture-capital-report_4.pdf



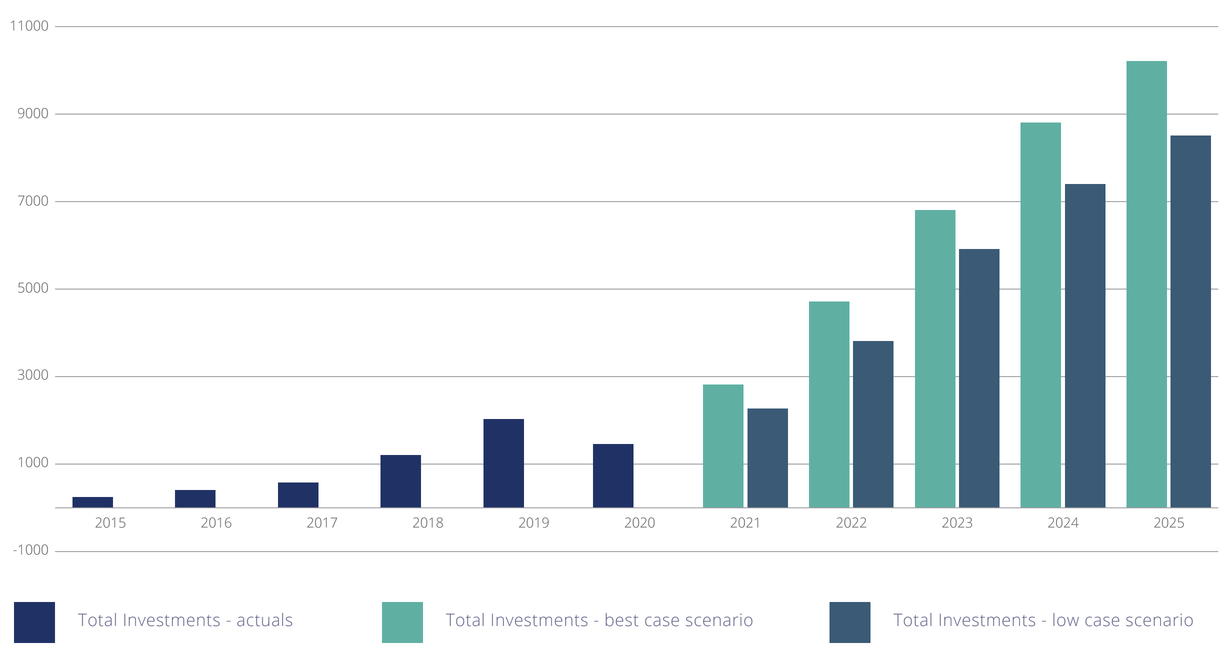
Companies with CVC funds hedge their exposure through a portfolio of minority investments in startups while pursuing opportunities. This enables them to leverage potential opportunities for growth, not only during the current time of disruption but also to step beyond the post-pandemic environment. In order to drive digital transformation, CVCs can become a powerful complement to other instruments such as in-house R&D, alliances, joint ventures, M&A and corporate innovation programs.

The link between CVC funds and corporate open innovation is strong. According to Llew Claasen, Managing Partner at Newtown Partners, whose fund raised $10m in early 2020 from Imperial Logistics, *"CVC programs fit into a wider corporate open innovation program. It depends on the sophistication and the maturity of the corporate innovation program as the way they open up participation to external parties. We think that CVC has the potential to have the quickest near-term impact on opportunities that are strategically relevant to corporates. But even then, CVC is not a near term program, in the sense that it enables corporates to better understand how the ecosystem is developing, and how the overall business will be impacted over a 5 to 10-year time frame." Llew Classen clarifies that it indeed depends on the time value that corporates are looking at these programs."*

"For example, a corporate who wants to invest in an accelerator, an incubator or an open innovation program that will introduce them to specific startups based on the mandate that you set for them will find some challenges along the way. The challenge with programs that work with early-stage startups is that their time to value is very

Investment in African tech startups: 2015 - 2025 (in $ M)

Source: Partech reports (2015 - 2020). AfricArena Analysis (2021 - 2025)



KEY TAKEAWAYS

- CVC has the wind in its sails and sees a growing interest in Africa.
- Interestingly, the link between the corporate open innovation department and the CVC is not always clear within the corporate.
- The impact of CVC is plentiful and has rather mid to long term objectives.

long and their success is low. And it's because corporates actually struggled to work with startups. They don't usually give the startups the space to be able to develop into the solutions that the startup develops but rather on what problems the corporate is trying to solve." The challenge mentioned is one of the biggest barriers that our surveyed entrepreneurs faced when working with corporates, through open innovation programs or not (c.f 2020 State of Tech Innovation Report - AfricArena).

The link between CVC and open innovation needs to be understood in a broader program, with impact in the short, mid- and long-term. This program needs to be defined depending on the corporate needs, and what it wants to achieve. If the corporate is operating in an industry that is facing short-term disruption (0 to 5 years), then launching an open innovation program at that point will struggle to change that business. According to Llew Claasen, a 5 to 10-year timeframe is the most appropriate timeframe for corporates to look at how they change their business, and how they can align it with how their broader industry is changing.

v. Via tech hubs (accelerators or incubators)

Tech incubators and accelerators are an important component of open innovation programs. They can be developed in-house and therefore a part of the corporate or they can be operated by a third party. There are interesting pros of integrating tech hubs within corporate open innovation challenges. Firstly, corporates can tap into a team of experts that have made growing startups their speciality and who take a broader approach, not only focused on the corporate's industry. Secondly, tech hubs are working with multiple stakeholders such as investors, policymakers, seasoned founders or other corporates. The last point is particularly interesting because it enables cross collaboration by corporates across sectors. Thirdly, tech hubs may facilitate the discussion, the definition of the objectives and their achievements by providing a platform for corporates and startups to develop their partnership. It may be providing soft skills support or hardware.


9,6
1,4
NORTHERN CAPE
FREE STATE
67,3
65,0
26,5
2,7
3,7
WESTERN CAPE
8,7
21,9
2,1
EASTERN CAPE
THE

8. How could corporates better foster corporate open innovation?

a. Better engage with early-stage startups

From our research, corporates have varying degrees of approach and maturity. Some are looking for a short-term impact, while others have longer, deeper strategies. Some approaches may be more focused on PR or marketing while others are putting the emphasis on market intelligence, based on potential collaboration or acquisition deal flow, or dependent on a more integrated methodology of open innovation.
"Some corporates don't realize how through corporate innovation, they can have help in learning how best to successfully work with an earlier stage startup" Grace Legodi, Country Manager, PlugnPlay.

Running open innovation strategies is not an easy job for corporates who are often struggling to work with early-stage companies. Corporations face several stumbling blocks in their program execution from the first stage to the outcome of the program. After all, doing open innovation implies challenging key organisational components for future disruption. Corporates need to become more agile, open their doors to external companies and gain versatility in incorporating innovative concepts into their processes. A successful open innovation program implies a sufficiently high-level decision-making process and the necessary resources available to the business units involved. It is crucial that a strong supporter within the company takes control of the program and supervises its implementation with a focus on performance. This also involves predicting the need for capital (product managers, growth budget) to handle certain effects (e.g. incubation, PoC) without understanding what they could be at the outset.

During the post sourcing phase of the open innovation process, we frequently find that an asynchronous collection of timeframes, priorities and resources between the organisation and the entrepreneur will stumble upon the implementation of the agreed outcome (PoC, partnership). Involving a third party may be a good idea. For example, in the PoC execution process, a known method of minimizing the risk of failure is to appoint either a powerful program manager to handle it,

KEY TAKEAWAYS

- Strong internal leadership in both sides to manage the partnership
- Set up clear objectives for the partnership

or to manage the PoC via a local incubator or accelerator partnering with the startup. In our experience, the extra expense has proved to be worth the investment.

b. Promote internal innovation

While the majority of corporates tend to prefer to develop their open innovation strategy by bringing external ideas in, some of them do their best to stimulate internal innovation and foster intrapreneurship. Intrapreneurship may give businesses a competitive edge. It can motivate their staff, while giving them a reason to stay with the company. Intrapreneurship is good for corporates as by promoting employees to deliver more, and go beyond their job position, it ultimately fuels innovation and growth.

A good example is Microsoft's underwater datacenter project. During a PoC, Microsoft's Project Natick team deployed a datacenter 117 feet deep to the seafloor in spring 2018. For the next two years, team members tested and monitored the performance and reliability of the datacenter's servers.

The team hypothesized that a sealed container on the ocean floor could provide ways to improve the overall reliability of datacenters. The underwater datacenter concept splashed onto the scene at Microsoft in 2014 during ThinkWeek, an event that gathers employees to share out-of-the-box ideas. The concept was considered a potential way to provide lightning-quick cloud services to coastal populations and save energy.

We decided to reach out to Microsoft to learn more about their effort to promote internal innovation. After asking the question to Gustavo Raiter, Business Development Lead, Microsoft 4Afrika we understood that internal innovation is among the top priorities with "uncountable ways [to foster innovation] from hackathons to "do what you want" spaces. From internal training slots up to getting a seat at top universities to diversify our knowledge.``

"Thus, unless we see faster ROI from startup investments or a change in markets, I doubt it will be worthwhile for corporates to play in this space."

9. What are the perspectives when it comes to corporate open innovation?

"From a broader perspective, crisis brings about unprecedented challenges in society, it also brings about a wave of inspiring new ideas developed in response. Innovation is more important now than ever before. We look forward to a very successful open innovation world in Africa for 2021!" Benjamin Edwin, Project & Sales Manager, Bosch Mobility Solutions Africa.

"Africa counts with a rich human capital that without any doubt is ready and plenty of endless innovative initiatives which may result in the highest social and economic impact." (Gustavo Raiter, Business Development Lead, Microsoft 4Afrika)

If we look at how 2021 has started, it is clear that we are still dealing with a high-level of uncertainty. Although we have seen a lot of corporates showing interest in or even reinvesting in open innovation after the first months of COVID-19, we do believe that the next 6 to 12 months will remain complicated, especially in Africa where the model is not as mature as it is in other parts of the world. While speaking with African corporates during our research, we felt a certain degree of conservatism in the sense that even though they were interested in open innovation solutions, the conversion rate is low. It may be hard to bring up an innovation topic when corporates are just trying to keep the basics afloat.

In addition to this, Renier Kriel, CEO of FSAT Labs told us that *"[he doesn't] see corporate investment into the startup space as having a massive impact in the short term. As it stands there is a disconnect between corporate objectives and the typical journey and time a startup takes to develop. Ina nutshell, startup investment takes a long time to reflect positively on share price of a corporate and with the high risk still associated with these investments, the corporates likely feel that their money is better spent elsewhere. And this is also evident in a lot of corporates resorting to venture studio either internal or external to pioneer their innovation efforts instead of spending the money on startup investments. In the medium term however, as the Africa startup eco-system maturescorporates will play a key part in exit options for high growth startups, VC-backed startups."*

That said, we believe that we will see more corporates moving towards more agile methodologies, in order to adapt processes and cultures to be more responsive. Whether it is something as simple as adapting working policy, which is a form of innovation, all the way through the use of certain technologies and platforms. This leads us to believe that corporates are going to invest in innovation in order to stay relevant. On the other hand, a natural follow on economic depression is cost cutting. It's almost like a binary approach where some corporates will retreat and stick to their core, which means they would stop investing in innovation.

Regarding the CVC activity, there is no question that the trend is towards corporates gradually putting more money into their own CVC systems with respect to CVC investments. That's an international pattern, and we have no reason to believe it won't happen in Africa as well. We believe that the current market conditions make it difficult for companies not to concentrate on solving their short-term problems such as "how do we go through COVID-19 and still have a reliable company? ". That has tempered the momentum in which CVC funds were getting funding. But on the other hand, when disruption of this kind is most severe, it is also the time when corporates have an opportunity to think about whether or not their business needs to go through a process of how to make it antifragile. Then, when this sort of thing happens again in the future, or any kind of significant disruptions happen in the future, the business would be in a better position at that point in time to weather it, rather than looking at solving the problem at that point. That's why we expect that African corporates will also put more and more capital into corporate venture capital programs.

We have good reasons to believe that the outlook regarding corporate open innovation is positive. Whether it is on the CVC side or on the corporate open innovation programs, corporates have understood that there is a good chance that their next engine of growth will be coming from early-stage startups with disruptive technology.

"... we expect an extremely strong acceleration of deals from Seed to Series B as well as major growth deals, together with some IPOs (Nigeria's Interswitch for example), that will propel deal activity to never seen before levels of activity."

KEY TAKEAWAYS

- Corporates have understood the importance of open innovation, though their investment varies widely from one corporate to another.
- Good outlook from some actors are mitigated by the remaining high level of uncertainty.

A dive into future projections on funding of African startups: after the recess of 2020, a strong upcoming rising tide

Forecasting the total deployment of capital, from Seed to Growth, in Africa is no easy task given the early stage nature and substantial differences between regions. At the time of writing our previous report in April 2020, a few weeks after the start of the pandemic, there were a lot of uncertainties:

- Will the investment momentum be put to a brutal halt or only a short delay?
- Can the new context impact the type, size and structure of transactions?
- Will the investors protect their portfolio or make new deals?
- Will the early-stage sector African tech startups, which are largely underfunded and typically have less than 3 months cash on hand, survive the drought?

At the time, we predicted that – for the first time – that “the total of the 2020 investment in tech startups will drop to between $1.2 and $1.8 billion, compared to over $2 in 2019. Based on the deal momentum of $343m in the first three months of 2020 (source Maxime Bayen, Catalyst Fund) which factored a 27% YoY growth, we expect deal activity to fall sharply in Q2 and Q3 2020, primarily fueled by VC investor doing refinancing deals on their portfolio. In spite of valuation metrics likely down by a 20 to 30% factor, new deals will be limited until the broad economy restarts”.

As we saw in previous sections of this report, the final number was $1.4b – just under the midrange of our projections. As foreseen, large growth deals fell substantially, while average valuations were also under pressure in Q2 and Q3 particularly. The number of deals however increased, as a large portion of startups focused on funding 18 months runway, often with the backing of their investors, and the risk appetite from some of the most active VCs (such as Echo VC, 500Startups, Y Combinator) actually translated in a rise of the Seed segment. Most remarkably, most VCs have adapted to the lack of Face to Face interaction to perform due diligence particularly on deals which have been initiated prior to the start of the pandemics.

Going into 2021, the situation remains marked by several inhibiting factors: the great difficulty to travel into and across the continent, the macro economic uncertainties, as well as a slower commitment of capital from LP to new GP Funds, and the increased difficulty to raise capital in very early stage. On the upside, the “great digitalization” started by the pandemic is creating many opportunities in education, fintech, B2B solutions and eCommerce, and leapfrogging digital transformation issues across the corporate spectrum.

We foresee that the first two quarters of 2021 will be similar Q4 2020, with the mix of factors mentioned above. Vaccine campaigns will likely take longer than hoped to have a meaningful impact. However, this roll out – regardless of how long they will actually take - will eliminate the major uncertainty about the end of the pandemic, which is only a question of time. As a result, we expect an extremely strong acceleration of deals from Seed to Series B as well as major growth deals, together with some IPOs (Nigeria’s Interswitch for example), that will propel deal activity to never seen before levels of activity.

As of April 2020, our forecast for 2021 was ranging from under $1.6 billion to over $3 billion, with the worst case scenario based on a prolonged and fragmented impact on the African economies, and the best case scenario factoring a full recovery by Q1 2021. Based on the above observations, our views are now that **2021 will range between $2.25 and $2.8 billion**.

We expect 2022 – all things being equal – to mark a very sharp acceleration with the African tech sector racking between $3.8 and $4.7 billion – such a momentum to continue in subsequent years, with the upper range being $6.8 billion in 2023, $8.8 billion in 2024 and to exceed $10 billion in 2025.

It is worth noting that new factors will come into play that will only fuel the growth of the sector. In particular:

- A number of major initiatives from Europe (programs such as Enrich in Africa), UK (now having to establish specific programs to connect its own tech sectors and corporates to opportunities on the continent), US, Japan and China.
- An increased allocation of capital from Corporates to their corporate VC activities and to acquisitions of african tech companies.
- The intensification of investment by DFIs both via direct investment and increased allocation to VC firms. For example, The CDC Group is expanding its interests in the sector. CDC's new venture capital strategy focuses on partnerships with VC funds across key technology hubs in Africa such as Sawari Ventures (Egyptian / North African fund); TLcom (Pan-African fund); Novastar Ventures (Pan-African fund). The increasing effect of successful exits and IPOs on angel investments and entrepreneurs led seed rounds to support new ventures. In 2021, the IPO of Interswitch is expected to take place.
- A gradual increase in valuations, particularly in regions such as West and North Africa (in particular francophone Africa). The March 2021 $170m Series C round of Flutterwave at a $1 billion valuation, making it the 4th african Unicorn, or Jumia - Africa's first Unicorn - reaching a $6 billion market cap in February 2021, clearly illustrating this.
- The adoption in the next 3 years of regulatory reforms (startup acts and equivalent) to address the competitive shortfalls of many countries in the continent, such as South Africa, Kenya, Nigeria, Morocco, Tanzania. It is expected that after Tunisia and Senegal, Kenya will pass a startup act in 2021.

References

- The Definitive List Of South African Business Incubators For Start-Ups. Entrepreneur. Nicole Grampton. February 27, 2019.
- 618 active tech hubs: The backbone of Africa's tech ecosystem. GSMA. July 10, 2019.
- Tech hubs across Africa to incubate the next generation. The Africa Report. Nicholas Norbrook et al. February 14, 2020.
- Rating incubators and accelerators – how do African startups choose? Disrupt Africa. Tom Jackson. November 18, 2019.
- In 2020, VCs invested $428M into US-based startups every day. TechCrunch. Alex Wilhelm. January 19, 2021.
- Why funding matters at early-stage, and why more funds are active in this area. Disrupt Africa. Tom Jackson. January 8, 2021.
- Digital 2020: Global Digital Overview. Datareportal. Simon Kemp. January 30, 2020.
- Why Nigeria's biggest payments companies have entered e-commerce. TechCabal. Abubakar Idris. June 23, 2020.
- Six African fintech startups have been selected for Catalyst Fund accelerator. Ventureburn. Staff writer. January 29, 2021.
- 2021 TIME100 NEXT - Olugbenga Agboola. Aryn Baker. February 17, 2021.
- 12 African fintech startups to watch in 2021. Alexander O. Onukwue. TechCabal. January 21, 2021
- Inside the Stripe Acquisition of Paystack with Shola Akinlade and Matt Henderson. [Podcast]. The Flip. December 3, 2020.
- How agritech is sustaining Africa's food supply in the middle of a global lockdown. TechCabal. Kay Ugwuede. April 14, 2020.
- Off-Grid Solar in Africa is a $24 billion opportunity says report.
- Did African startups raise $496M, $1B or $2B in 2019? Jake Bright. TechCrunch. March 5, 2020.
- How African startups raised investments in 2020. Tage Kene-Okafor. TechCrunch. February 11, 2021.
- The Next Wave: Software is eating agriculture. Alexander O. Onukwue. TechCabal. February 8, 2021.
- African Tech Startups Funding Report 2020. Disrupt Africa.
- The Next Wave: Fintechs on Africa's eCommerce highway. Alexander O. Onukwue. TechCabal. December 7, 2020.
- The State of tech innovation in Africa. AfricArena. 2020. www.africarena.com/report2020
- 2020 Africa Tech Venture Capital Report. Partech Partners Africa. February 2021.
- Crunchbase - www.crunchbase.com
- AfricArena Blog
  - Securing $17 million in Series B funding to ensure food security across the world - Aerobotics. January 26, 2021.
  - Kenyan startup, Zuri Health, launches mhealth app to broaden healthcare solutions. January 18, 2021.
  - Raising $790k in pre-series A: AgroCenta's journey. February 11, 2021.
  - Kenya-based diagnostics startup Ilara Health raises $735k. Ventureburn. August 8, 2019.
- CCAF, World Bank and World Economic Forum (2020) ***The Global COVID-19 FinTech Market Rapid Assessment Report,*** University of Cambridge, World Bank Group and the World Economic Forum. Available here: https://www.jbs.cam.ac.uk/wp-content/uploads/2020/12/2020-ccaf-global-COVID-19-fintech-market-rapid-assessment-study.pdf

Glossary

- **Accelerator** ... A structure that offers cohort-based and fixed term programmes to support growth stage ventures to achieve scalability and self-sufficiency. Accelerators offer advisory services, mentorship, workshops, networks and usually investments in cash or in-kind.
- **Accounting Rate of Return (ARR)** ... The expected percentage rate of return on an investment, compared to the initial investment's cost. *(Compare with Return on investment)*
- **Agritech** ... A portmanteau of "agriculture" and "technology", which refers to technology-enabled products or services geared towards better agricultural practices and outputs.
- **Angel Investor** ... An individual investor who uses their own money to fund an early stage business.
- **Bootstrap** ... The founder(s) of a business using their personal capital to start the business and the money coming from the sales to grow it.
- **Corporate Venture Capital (CVC)** ... Corporate venture capital is the investment of corporate funds directly in external startup companies.
- **Development Finance Institution (DFI)** ... A financial institution that provides risk capital for economic development projects on a non commercial basis.
- **Early Stage** ... A startup in its early days, usually with little or no funding.
- **Ecosystem** ... A dynamic framework consisting of a set of stakeholders - startups, hubs, investors, academic institutions, public institutions, corporates - who interact and engage with each other to seize new opportunities, support innovation and strengthen the overall business environment for entities at different stages, sectors, and geographical locations.
- **Fintech** ... A portmanteau of "financial" and "technology" which refers to any sort of technology used to support or enable financial-related services.
- **Founder** ... The initial person(s) that start a business.
- **Fund Manager** ... A person or a legal entity who determines the investment strategy and manages the investment of money on behalf of an institution or group of people.
- **GDP per capita** ... The division of a country's GDP distributed across the population of the country.
- **General Partner (GP)** ... A general partner in a VC fund manages the deployment of funds into investments in startups and the day-to-day operations on running the VC firm. *(Compare to Limited Partner)*
- **Gross Domestic Product (GDP)** ... The total value of goods produced and services provided in a country during one year.
- **Healthtech (or e-health)** ... A portmanteau of "healthcare" and "technology" which refers to the use of technology (databases, applications,
- **Impact investing** ... Investments made into companies/ organizations/funds with the intention to generate a measurable, beneficial social or environmental impact alongside a financial return.
- **Incubator** ... A support structure that helps early-stage start-ups transform from idea to venture, by offering advisory services, resources, workshops and hands-on training that guide entrepreneurs in defining and refining their business models and value propositions with the goal of becoming sustainable businesses.
- **Limited Partner (LP)** ... A limited partner in a VC fund transfers to the general partners the assets under management for a limited duration in order to deploy them through investments in startups. Limited partners are not commited operationally in the management of the fund. They are usually

public institutions, pensions funds, development finance institutions, etc. *(Compare to General Partner)*

- **M&A (Merger and Acquisition)** ... A general term used to describe the consolidation of companies or assets through various types of financial transactions, including mergers, acquisitions, consolidations, tender offers, purchase of assets, and management acquisitions.
- **Minimum Viable Product (MVP)** ... A product with enough features to attract early-adopter customers and validate a product idea early in the product development cycle.
- **Off-grid** ... Technologies/products/facilities that do not rely on connectivity to a main electric grid to function, but rather, use alternative power options.
- **Open Innovation** ... The use of purposive inflows and outflows of knowledge and resources to accelerate internal innovation.
- **Open Innovation Challenge** ... Part of an Open Innovation program. Its goal is to source and connect startups with corporates.
- **Private Equity (PE)** ... An alternative investment class and consists of capital that is not listed on a public exchange.
- **Proof of Concept (PoC)** ... The materialization of a certain method or idea in order to demonstrate its feasibility.
- **Return on Investment (ROI)** ... The measure of the amount of return on a particular investment, relative to the investment's cost. (Compare with Accounting Rate of Return)
- **Seed Funding** ... Early stage of funding where the startup might not even have an MVP.
- **Series A Funding** ... Follows the Seed Funding, usually enables the scaling phase of the business.
- **Startup** ... A company using technology to bring new products or services to the market. In our definition, it covers only companies being headquartered in or with most of its operations in Africa.
- **Startup Act** ... A legislation that is intended to encourage the growth and viability of startup companies.
- **Tech Hub** ... A centre, structure or network comprising actors supporting or facilitating the development of an environment conducive to entrepreneurship or innovation (e.g. incubator, accelerator, co-working spaces, etc.).
- **Ticket** ... "Ticket size" refers to the amount of money that goes into an investment transaction.
- **Venture Capital (VC)** ... A venture capital firm is a specific type of private equity investment firm that focuses on high-growth potential, risky and innovative businesses. The expected above-average returns compensate for the high level of risk associated. It usually takes the form of an equity stake in exchange of cash money.

Startup activity per country in Africa

Source: AfricArena research; Partech data; World Bank Data; IMF data; OECD data

Country	VC investment 2019 $m	VC investment 2020 $m	% change value	VC investment 2019 #	VC investment 2020 #	% change number	Ave deal size 2019	Ave deal size 2020	% change ave deal size	Ease of Doing Business Ranking	GDP per Capita $	VC investment % GDP 2020	VC investment per Capita $
TOTAL	**2021.0**	**1428.3**	**-29%**	**250.0**	**359.0**	**44%**	**8.08**	**3.98**	**-51%**				
Nigeria	747.0	307.0	-59%	38.0	71.0	87%	19.66	4.32	-78%	131	2229.9	0.0685%	1.53
Kenya	564.0	305.0	-46%	52.0	52.0	0%	10.85	5.87	-46%	56	1816.5	0.3194%	5.80
Egypt	211.0	269.0	27%	47.0	86.0	83%	4.49	3.13	-30%	114	3019.2	0.0888%	2.68
South Africa	205.0	259.0	26%	66.0	72.0	9%	3.11	3.60	16%	84	6001.4	0.0737%	4.42
Ghana	55.0	111.0	102%	10.0	13.0	30%	5.50	8.54	55%	118	2202.1	0.1657%	3.65
n/a	0.0	81.0		0.0	4.0			20.25					
Rwanda	126.0	11.6	-91%	4.0	4.0	0%	31.50	2.90	-91%	38	820.0	0.1120%	0.92
Uganda	38.0	11.3	-70%	4.0	4.0	0%	9.50	2.83	-70%	116	794.3	0.0321%	0.26
Morocco	7.0	11.2	60%	4.0	12.0	200%	1.75	0.93	-47%	53	3204.1	0.0094%	0.31
Senegal	16.0	8.8	-45%	6.0	2.0	-67%	2.67	4.40	65%	123	1446.8	0.0373%	0.54
Cote d'Ivoire	2.0	6.5	225%	0.0	6.0			1.08		110	2276.3	0.0111%	0.25
Algeria	4.0	5.5	38%	1.0	1.0	0%	4.00	5.50	38%	157	3974.0	0.0032%	0.13
Tanzania	0.0	4.6		0.0	4.0			1.15		141	1122.1	0.0073%	0.08
DRC	4.0	4.6	15%	2.0	1.0	-50%	2.00	4.60	130%	183	580.7	0.0091%	0.05
Cameroon	4.0	4.0	0%	3.0	3.0	0%	1.33	1.33	0%	167	1507.5	0.0103%	0.15
Zambia	13.0	3.8	-71%	4.0	3.0	-25%	3.25	1.27	-61%	85	1305.1	0.0163%	0.21
Togo	0.0	3.8		0.0	2.0			1.90		97	679.3	0.0692%	0.47
Tunisia	8.0	3.4	-57%	3.0	7.0	133%	2.67	0.49	-82%	78	3317.5	0.0088%	0.29
Malawi	0.0	3.3		0.0	1.0			3.30		109	411.6	0.0430%	0.18
Sierra Leone	0.0	3.0		0.0	1.0			3.00		163	527.5	0.0728%	0.38
Gambia	0.0	2.7		0.0	1.0			2.70		155	777.8	0.1479%	1.15
Benin	0.0	2.4		0.0	1.0			2.40		149	1219.4	0.0167%	0.20
Ethiopia	1.0	2.2	120%	1.0	2.0	100%	1.00	1.10	10%	159	855.8	0.0023%	0.02
Mauritius	0.0	1.8		0.0	3.0			0.60		13	11099.2	0.0128%	1.42
Mali	0.0	1.0		0.0	1.0			1.00		148	879.0	0.0058%	0.05
Libya	0.0	0.6		0.0	1.0			0.60		186	7685.9	0.0012%	0.09
Madagascar	0.0	0.2		0.0	1.0			0.20		161	523.4	0.0014%	0.01
Zimbabwe	13.0	0.0	-100%	1.0	0.0	-100%	13.00			140	1464.0	0.0000%	0.00
Niger	3.0	0.0	-100%	1.0	0.0	-100%	3.00			132	553.9	0.0000%	0.00