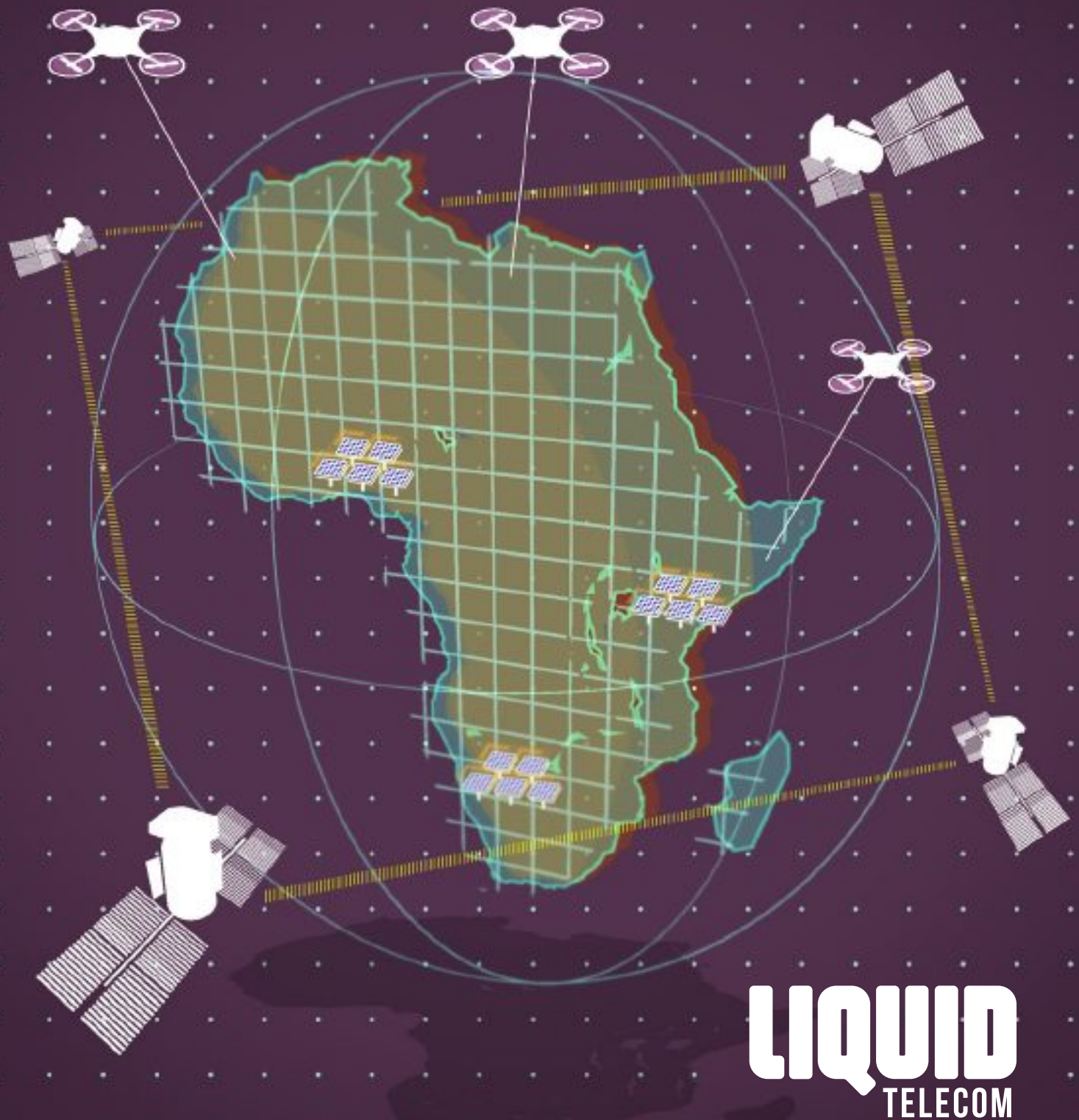


AFRICAN. INNOVATION



LIQUID
TELECOM

Liquid Telecom Group companies:

ADN
A LIQUID TELECOM GROUP COMPANY

LIQUID
TELECOM

EastAfrica
DataCentre

Hai

Infocom
Let's talk internet.
Internet • Data • Voice

Neotel
LIQUID TELECOM

Pay Bay

raha
LIQUID TELECOM

ZOL
Zimbabwe

Contents

01 Introduction

Innovation has forged a new identity across Africa – where African start-ups are developing solutions and services for African problems.

02 Africa's KINGS

As more tech start-ups emerge across Africa, five countries are leading the way when it comes to digital innovation. We examine the tech potential of Kenya, Ivory Coast, Nigeria, Ghana and South Africa.

08 A look back at seminal moments in the African tech start-up scene so far...

From Kenya's mobile money revolution to the continent's first visit from Facebook Founder Mark Zuckerberg, a look back at the moments that have shaped the tech start-up scene so far.

12 The story of communication and innovation

The communications world has been a constant stream of innovation over the past 10 years, explains Ben Roberts, CTO at Liquid Telecom.

13 What makes an African tech start-up tick?

Africa's start-up scene is still at an early stage of development, with access to funds and critical resources needed for it to take the next crucial steps. A range of experts give their view on what is needed to better support the ecosystem.

17 Start-up thoughts in a rapidly changing Africa

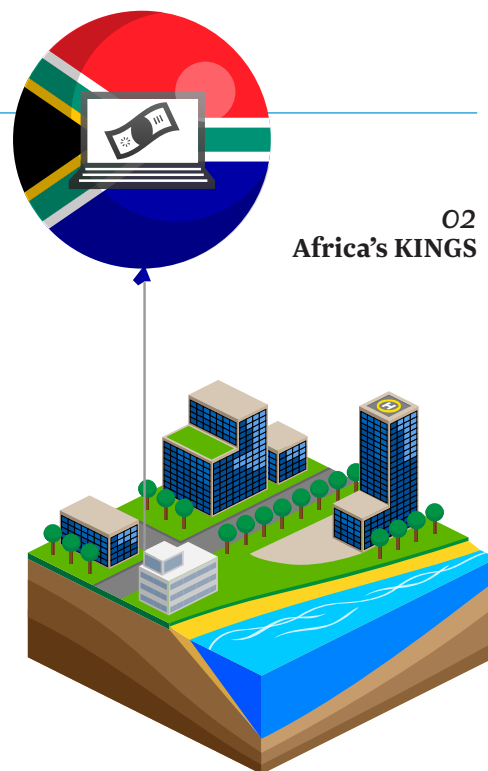
Entrepreneur and technologist Erik Hersman give the next-generation of start-ups some tips and identifies potential pitfalls to avoid when growing their business.

18 A new crop of rural innovators

While the focus of many start-ups falls on developing solutions for urban areas, a growing number are tackling problems in rural regions. Here the challenges are far steeper, but the rewards for local communities are much higher.

21 About Liquid Telecom

Find out more about how Liquid Telecom's network and services can help your business across Africa today.



02
Africa's KINGS



18
A new
crop of
rural
innovators

When will we see Africa's first "unicorns"?

With nearly 200 million people between the ages of 15 and 24, Africa has the youngest population in the world. This figure is set to double by 2025, ushering in a new generation with the potential to understand and solve pressing social and economic challenges by harnessing the power of digital innovation.

At the same time, entrepreneurship is forging its own identity across the region – where an exciting new generation of African start-ups are developing solutions and services for African problems.

Across each sector, start-ups are unearthing new ways to do business. From finance and energy through to agriculture and healthcare, entrepreneurs are developing solutions, services and platforms that are helping to refine the supply chain and drive efficiencies.

In the process, they are creating a better flow of information across the entire region, which is empowering businesses and consumers to make more informed and accurate decisions.

It is starting to shape the way people interact in the region's rapidly growing urban areas, while bringing untold benefits to underserved rural communities.

They face many challenges. But for African start-ups every challenge is also an opportunity – insufficient power supplies? Hello solar energy. No access to formal financial services? Welcome mobile money. Limited access to mobile broadband? Enter SMS-based solutions.

Yet the tech ecosystem remains at an early stage of development. In many markets, the start-up scene is little over five years old, and requires careful nurturing over the coming years. Funding and access to other critical resources is required to support start-ups who have little to no previous experience in the market. While governments and academic institutions will also have a valuable role to play, particularly in attempts to engage with those living under the poverty line.

High-speed, reliable connectivity underpins innovation, and the rollout of new networks is an important enabler for start-ups and the advancement of digital services.

It is why through this report, Liquid Telecom is showcasing the region's latest innovation and talent, which it supports through Africa's largest independent fibre network.

The world is still waiting with anticipation to see the emergence of Africa's first "unicorns" (start-up companies valued at over \$1 billion). It is a story that is capturing the imagination of the business community at large, as these start-ups are poised to bring serious disruption to the market, while potentially changing consumer behaviour forever.



Innovation and entrepreneurship is forging its own identity across the region.



Editor:
Alex Hawkes

Contributor:
Gabriella Mulligan
[Disrupt Africa](#)

Designer:
Graham Taylor

Feedback:
alex.hawkes@liquidtelecom.com

Follow us
[@liquidtelecom](#)
[linkedin.com/company/liquid-telecom](#)
[facebook.com/liquidtelecomgroup/](#)

AFRICA'S



As more tech start-up scenes emerge across Africa, five countries are leading the way when it comes to digital innovation.

Words by Gabriella Mulligan.

The last five years have been vital formative years for tech innovation across Africa, and nowhere more so than in Kenya, Ivory Coast, Nigeria, Ghana and South Africa.

Together known as the KINGS countries – coined by Eric Osiakwan, an entrepreneur and angel investor who is Managing Partner of Chanzo Capital – these countries paint a vibrant picture of the strengths of Africa's tech ecosystems, as well as the myriad of challenges still facing the continent's tech entrepreneurs.

The KINGS countries have taken on this leading reputation within Africa largely due to their early recognition of the potential of tech entrepreneurship to spur economies.

For example, South Africa's tech start-ups scene can be traced all the

way back to the late 1990s, while in 2006 the Kenyan government led the way with the first national ICT policy designed to support the country's digital innovation.

In addition, the KINGS group have particularly well developed telecoms markets. As coastal countries, all five are connected to multiple submarine cables; all enjoy satellite connectivity; and all have multiple telecoms operators competing to offer innovative new products to consumers. There is also strong demand from consumers for new digital services.

Together these five countries share an estimated 324.4 million mobile subscribers and 177.7 million internet subscribers.

The KINGS countries offer insightful case studies into the development of the African tech innovation narrative.

Kenya

Over the past 10 years, Kenya has developed a solid reputation as a leader in the tech start-up scene within Africa - and has become known as Africa's "Silicon Savannah".

Mobile money network M-Pesa is seen as an early trigger (2007) of Kenya's tech start-up scene. The solution is heralded worldwide as evidence of Kenya's tech and innovation prowess, as well as proof of the country's willingness to adopt new tech-fueled solutions.

Crowdsourced real-time event mapping platform Ushahidi also helped put Kenya further on the map. Developed in response to violence following the 2007 disputed presidential elections, the software behind the platform has been regularly used in emergency scenarios worldwide, including in the wake of the 2010 Haiti and Chile earthquakes, as well as in New Zealand in 2011.

It is this ability of Kenyan tech entrepreneurs to create innovative solutions to pressing problems that has grown the country's reputation globally.

Nairobi's most famous tech hub, iHub, was founded in 2010, and has become the unofficial headquarters for Kenya's tech start-ups; providing workspace, funding, mentorship and networks for some of the country's brightest entrepreneurs.

Some of the country's top start-ups have emerged from iHub, including BRCK, Weza Tele, Kopo Kopo and Eneza Education.

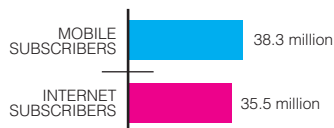
Over the years, iHub has been joined by a plethora of other start-up hubs, offering everything from co-working space - the largest of which is currently Nairobi Garage - to incubators providing hands-on mentoring and seed funding.

Business incubator Nailab has even attracted significant financial backing from the government of Kenya. The government in fact has proven increasingly eager to prioritise the country's digital entrepreneurs.

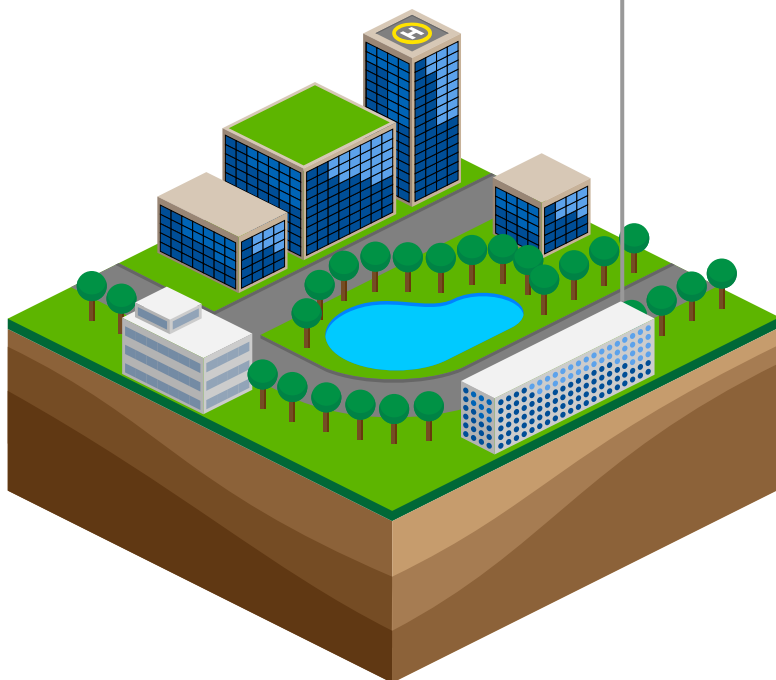
Bitange Ndemo served for eight years as the permanent secretary at Kenya's Ministry of Information and Communication (until 2013), and is widely praised as having overseen many of the progressive steps in the early evolution of the country's tech ecosystem.

While he says Kenya has all the potential for a blossoming tech start-up scene to develop, he

Internet and mobile penetration



Source: ATLAS - local communications regulators (2016)



cautions that the government must not leave it to external venture capital groups to support this growth. Rather, he says, government needs to invest heavily in increasing the number of young people with access to digital skills and entrepreneurship support.

"Remember that success in innovation depends on how much you spend in R&D. African governments must invest in R&D if Africa is to compete globally. If success comes from one in 100 start-ups, then we must expand the catchment area of young developers and at the same time provide support to those who show promise," Dr Ndemo says.



African governments must invest in R&D if Africa is to compete globally.



Ivory Coast

The start-up scene in west Africa's francophone Ivory Coast is certainly less advanced than other group members. Emerging from years of political upheaval, the Ivory Coast overall still faces a number of challenges, and in particular has recently been hit by a chain of attacks from the rising Islamist militancy threatening the region. Nonetheless, the country is making definite strides towards a more stable and prosperous environment. According to the IMF's World Economic Outlook, the Ivory Coast is Africa's fastest growing economy. The West African nation's GDP was expected to grow by as much as 8.5% in 2016.

Tellingly, the country has recently hosted a number of international entrepreneurship events. For example, the African Development Bank partnered with mobile operator Orange to hold an Innovation Weekend in Abidjan in 2015. Global start-ups pitching competition Seedstars World has also included an Abidjan-based edition of its event on its annual global tour, while SWIFT is to host its annual African Regional Conference (ARC) in the Ivory Coast later this year.

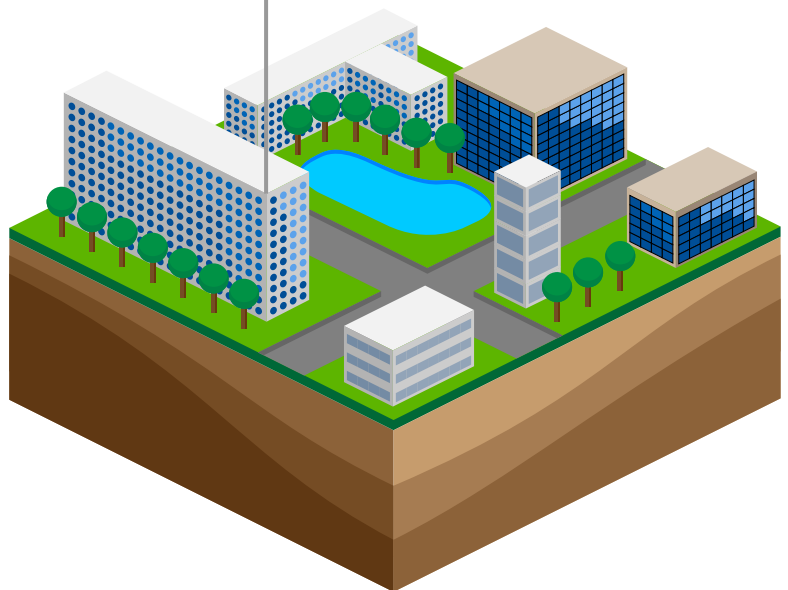
In 2016, the government of the Ivory Coast, in partnership with the African Development Bank, announced the launch of the US\$223 million Ivorian Innovation Fund, which aims to give the tech start-ups ecosystem in the country a boost, through infrastructure, financing, skills training and other support for local start-ups. The Ghana-based Meltwater Entrepreneurial School of Technology (MEST) also announced its expansion to the Ivory Coast, inviting Ivorian entrepreneurs to apply to join what is one of the region's top training and incubation programmes.

Orange, the country's leading mobile operator, has set up Orange Fab, an incubator and accelerator for nurturing start-ups. It is home to the likes of Sportif 225, an online platform that provides content and events for sports; Syceliman, an IT company specialised in development (web and software), computer systems and networks; Smartsell, a point-of-sale management system; and ICT4D, an e-agriculture start-up.

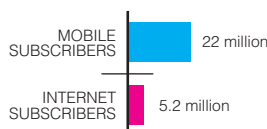
These start-ups are effectively disrupting existing markets in the local economy. As these types of start-up-oriented initiatives inevitably increase, and infrastructure projects unfold - such as the current government-led roll-out of fibre-optic cable across the country - the Ivory Coast will no doubt see its tech start-ups scene develop in leaps and bounds.



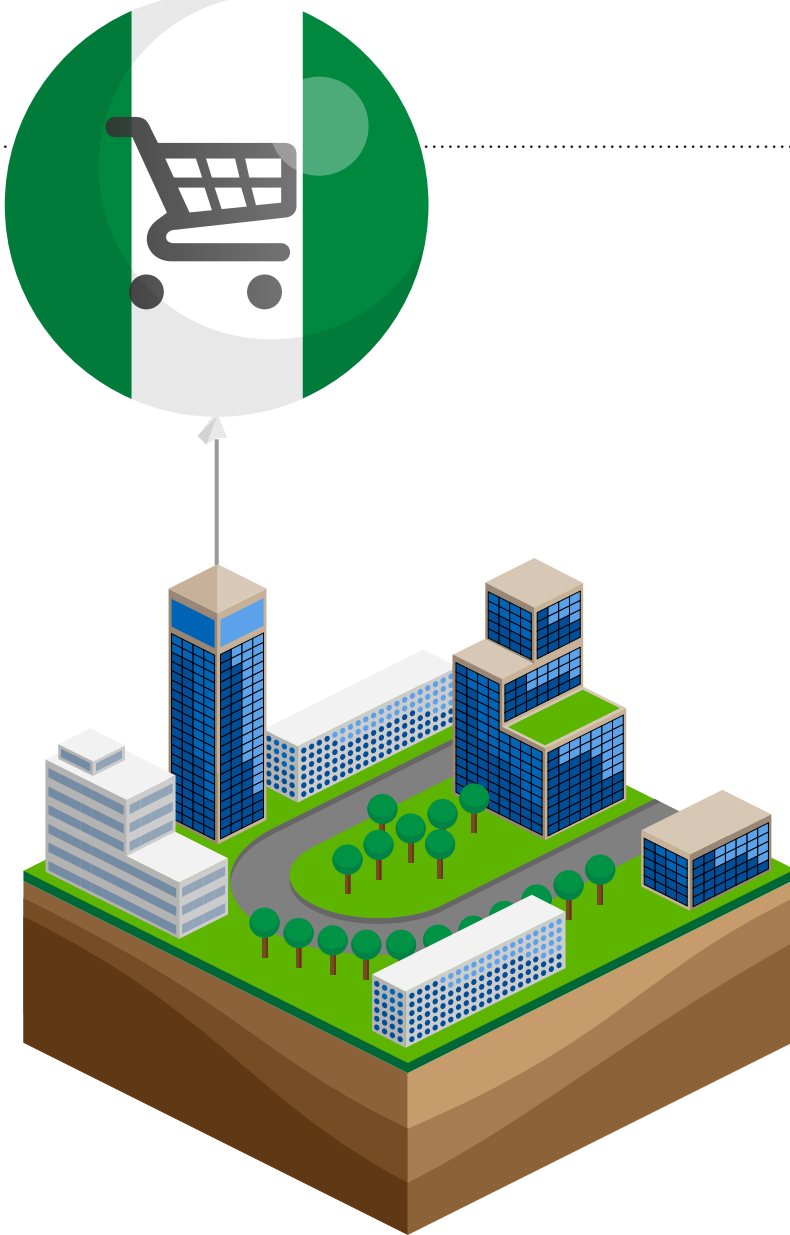
The country has recently hosted a number of international entrepreneurship events.



Internet and mobile penetration



Source: ATLAS - local communications regulators (2016)



Internet and mobile penetration



Source: ATLAS - local communications regulators (2016)

the Co-Creation Hub (CcHUB) - one of the country's earliest tech hubs that was founded in 2010. Providing investment, mentorship, training and events, the CcHUB was one of the first organisations to provide a support system for Nigerian tech entrepreneurs. Since 2010, a wave of hubs have taken Lagos by storm - including CapitalSquare, Passion Incubator, and government-backed iDEA, to name but a few - and start-ups can join a myriad of new incubator and accelerator programmes.

In 2015, Nigerian entrepreneur and philanthropist Tony Elumelu launched the US\$100 million Tony Elumelu Entrepreneurship Programme, which provides seed funding and entrepreneurship training to African entrepreneurs based in Lagos. Each cohort of the programme takes on 1,000 entrepreneurs at a time, which aims to create 10,000 businesses spanning the African continent. Nigerian entrepreneurs have so far dominated those selected for the programme - attesting to the vibrancy of the local tech scene.

Investor activity in Nigeria is also on the rise, with a growing number of local investors backing the country's start-ups. Active local venture capital organisations include Venture Garden Group, L5Lab, and EchoVC; while there is also a thriving angel investor community who form the Lagos Angels Network (LAN). As a result, the Nigerian ecosystem has already produced a number of success stories. Start-ups creating a buzz include Andela, which trains and places software engineers, discount e-commerce store DealDey; iROKOTv, which puts Nollywood videos online' and payments start-up Flutterwave. However, Nigerian tech start-ups face significant challenges in the form of the country's poor infrastructure, which can prove debilitating for early stage companies.

"I believe the major challenge the Nigerian start-up ecosystem faces is around infrastructure, particularly power and internet access. Not all start-ups will have the opportunity of being taken up by an accelerator that will most likely offer free or subsidised internet and power. For those start-ups not in an accelerator, operating costs are significantly higher which could lead to the dissolution of such company," says Bunmi Akinyemiju, Founding Partner of Venture Garden Group. "However, all hope isn't lost as I believe the future is brighter with more innovative companies daring to solve the so-called society "unsolvable" problems as well as increasing opportunities for the Nigerian start-up community to interface with investors."



The major challenge the Nigerian start-up ecosystem faces is around infrastructure.



Nigeria

With a population of over 182 million, Nigerian start-ups have a huge opportunity right on their doorstep. The country's youthful population is increasingly digitally-equipped, both in terms of tech skills and access to the internet.

However, the country's tech start-up scene is still in the early stages of development. Most of Nigeria's tech start-ups are based in Lagos, which is home to

Ghana

West Africa's Ghana tends to receive less attention than neighbour Nigeria, but the country is enjoying economic growth, coupled with a developing tech start-up scene.

The Meltwater Entrepreneurial School of Technology (MEST), which launched in 2008, has played a key role in supporting local start-ups. The organisation trains and mentors African tech entrepreneurs, and operates an incubator which invests in and helps local start-ups.

According to Katie Sarro, Managing Director of MEST, when the hub first launched in 2008, there was no real "scene" to speak of.

"The ecosystem when we started MEST in 2008 really didn't exist. Since then, we have seen it grow significantly. The ecosystem is now comprised largely of new hubs, incubators and accelerators taking shape. We've seen the number of guests outside MEST who attend our Hackathons and events significantly increase and informal communities like Mobile Mondays growing in number as well, signifying the increased interest in the start-up and tech space," Sarro says.

Testifying to the strength of the MEST incubator, a high number of its start-ups have gone on to join global accelerators, such as Y Combinator, 500 Start-ups and Techstars, and receive follow-on funding.

Most recent successes include social haircare app Tress and reviewing and marketing solution Kudobuzz.

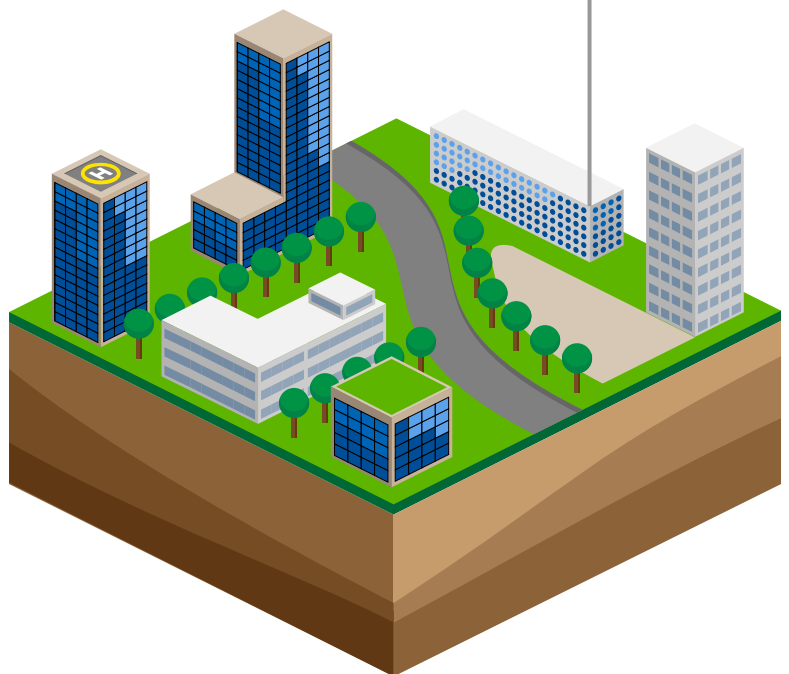
Ghana's tech start-ups have shown particularly strong innovation in agritech. A number of successful companies operating in this field include Farmerline, Landmapp and Esoko. Healthcare and pharma-oriented solutions have also gained traction in the country, with the likes of Bisa, mPedigree and mPharma growing from strength-to-strength.

While Ghana offers a stable, democratic climate for businesses - it is one of the stronger performing African economies in terms of ease of doing business - the country could be doing more to support the growth of ICT.

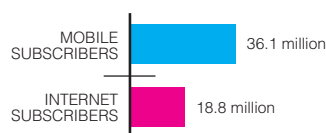
"What we need is for the general business ecosystem to acknowledge and see the value in technology in enabling and improving their businesses - for them to better understand the value in the products tech start-ups are creating," Sarro says.



Ghana's tech start-ups have shown particularly strong innovation in agritech.



Internet and mobile penetration



Source: ATLAS - local communications regulators (2016)



South Africa
has long enjoyed
a culture of
innovation and
self-sufficiency.



South Africa

South Africa is home to one of the oldest tech start-up ecosystems on the African continent. According to Ian Merrington, chief executive officer of the Cape Innovation and Technology Initiative (CiTi), the South African start-up scene can be traced back to pre-1994.

“South Africa has long enjoyed a culture of innovation and self-sufficiency, some of which began during the time of economic isolation. It is likely that this gave the successors a platform post-

1994 to back themselves to develop world class solutions,” he says.

The country also has one of Africa’s oldest technology hubs, the Cape Town-based Bandwidth Barn, which was founded in 1998. Since then, the Barn has expanded to multiple locations, and has been joined by numerous incubators and co-working spaces - particularly across Cape Town, which has developed a reputation as the country’s entrepreneurship capital.

The start-up scene in Cape Town even has its own “industry body” - the “Silicon Cape” initiative, which launched in 2009, is a community-driven network that supports tech entrepreneurship in the Western Cape province, and provides a source of connections, opportunities and events for local entrepreneurs.

With unemployment a significant problem in South Africa, particularly so in the country’s townships, there are an increasing number of hubs and training programmes emerging to support township-based entrepreneurs, which help them to build local businesses. Cape Town-headquartered RLabs is the most prolific in this regard, and among the most successful.

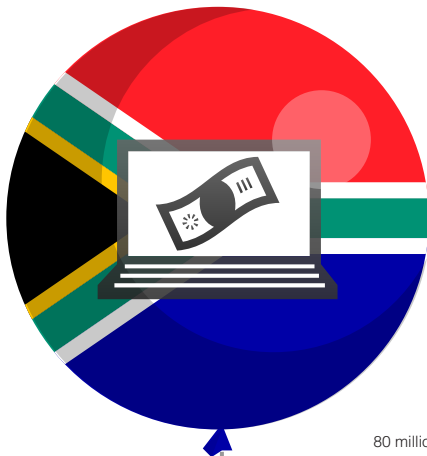
A number of universities have also launched dedicated entrepreneurship programmes and schools. At the University of Cape Town, budding entrepreneurs can study at the Bertha Centre for Social Innovation and Entrepreneurship, or work from the university’s innovation space. While Johannesburg Witwatersrand University spearheaded the development of the cutting-edge Tshimologong Digital Innovation Precinct.

The unemployment challenge in South Africa has also sparked a niche strength among tech start-ups in the country.

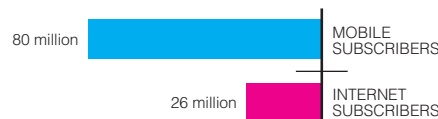
A number of companies have produced tech-powered micro-jobbing solutions, to facilitate informal, occasional or low-skill work - successful examples include Giraffe and SweepSouth (domestic work).

South African tech entrepreneurs have also found new opportunities to create innovative payment solutions targeting populations living in townships.

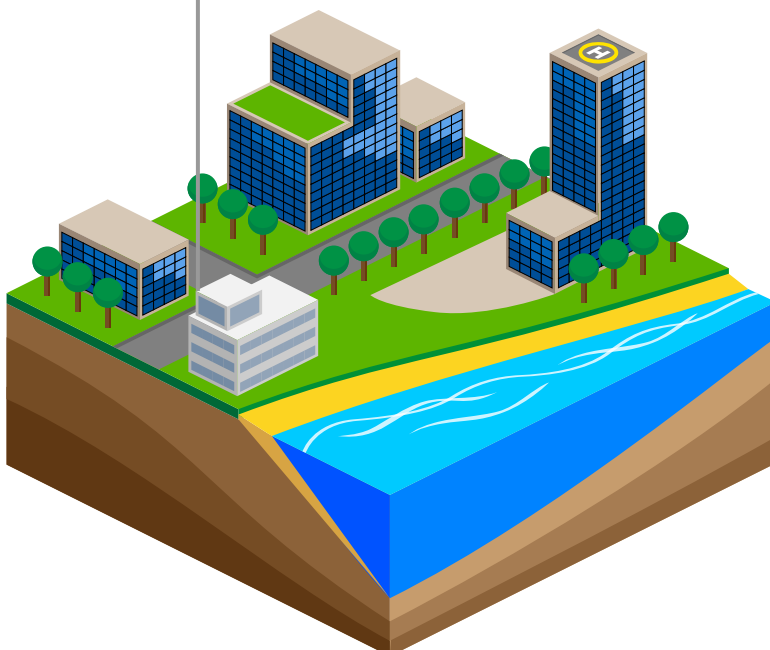
Start-ups Entersekt, Nomanini and Zoono are good examples of South Africa’s fintech innovation prowess, which is a sector likely to see on-going activity going forward, as financial institutions - such as Barclays and Standard Bank - increasingly seek to support South African fintech innovators.



Internet and mobile penetration



Source: ATLAS - local communications regulators (2016)



A look back at seminal moments in the African tech start-up scene so far...



The rise of the mobile first continent

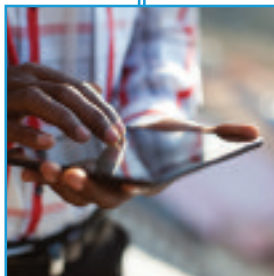


The 'mobile first continent' tagline is starting to wear a bit thin by now, but back in the early 2000s, the dramatic and widespread adoption of mobile phones across Africa seriously caught the world's imagination.

Fixed-line telephony never got going in Africa, so the emergence of affordable mobile technology suddenly saw huge swathes of the population come on-grid for the first time.

Today almost half of Africa is now subscribed to mobile services, and there is a fierce drive towards mobile broadband – the number of smartphone connections has almost doubled in the region over the last two years to reach 226 million, according to the GSMA.

The mobile ecosystem has also played a key role in economic growth, and is today said to support over 3.8 million jobs. It has also been the foundations for major innovation and a vital tool for tech start-ups, but more about that shortly...



Africa's first dotcom millionaire



South African tech entrepreneur and venture capitalist Mark Shuttleworth was just 22 when he founded digital certificate and internet security company Thawte. In 1999, he sold the company to Verisign for \$575 million in an all stock deal, and with the proceeds started HBD Capital (now Knife Capital), a Cape Town-based investment fund. More success was to come in 2001 when he founded Ubuntu Linux maker Canonical.

South African Koos Bekker also became a billion through savvy tech investments – although his was via a fortuitous investment in the Chinese internet. In 2001, his media group invested \$32 million in a then-obscure web company called Tencent. Its stake is now worth an estimated \$66 billion.

The region is still crying out for more experienced local tech entrepreneurs, but this was the first generation of to prove anything is possible.



Kenya's mobile money revolution



Kenya is the spiritual home of mobile money. And it all started with the launch of a certain mobile money transfer service called M-Pesa in 2007.

In an otherwise largely cash-based society, M-Pesa enabled millions of people access to a formal financial system for the first time. By 2015, M-Pesa had attracted 21 million customers in Kenya, where it can be used to pay for anything from utility bills to goods in a local store.

It also helped kick-start the country's start-up scene, paving the way for other success stories and creating fertile ground for a lot of other tech initiatives.

The subsea cable boom



What have underwater cables got to do with tech start-ups I hear you ask?

Well, they're critical pieces of global telecoms infrastructure that link together economies with vast levels of broadband capacity – they're major proponents of internet access basically.

Between 2009 and 2012, a total of seven fibre optic subsea cable systems were installed along the east and west coasts of sub-Saharan Africa, ending the continent's reliance on slower satellite connections.

Liquid Telecom has since been leading the charge to bring all that new capacity inland [by building extensive cross border fibre networks](#) that are delivering high-speed connectivity to businesses and consumers. It is also now investing in its [own subsea cable, Liquid Sea](#), to further boost the region's capacity.

Much work lies ahead to deliver more data to end users, but the influx of new subsea cables was a major turning point for internet access across Africa.

A visit from Mark Zuckerberg



In August 2016, Facebook founder Mark Zuckerberg made a surprise

first visit to Sub-Saharan Africa, where he met with local entrepreneurs and developers.

Visiting major tech hubs in Lagos and Nairobi, Zuckerberg was absolutely glowing in his praise of the innovation he found on show, and his appearance seems a likely precursor to further business interest in the region.

"You feel that here, as soon as you get off the plane and start talking to people, you feel that passion and entrepreneurial

energy," Zuckerberg said.

The "future of the world" will be built on the African continent, he added.



Africa's hosts its first TEDGlobal event



When it comes to innovation and tech, events don't get much bigger than TEDGlobal. It was therefore big news when the conference first pitched up in Arusha, Tanzania, 10 years ago, signifying Silicon Valley's growing interest in the region.

The theme for that event was 'Africa: The Next Chapter' and it showcased some of the region's most inspiring thinkers as well as the solutions they hoped would solve some of the continent's problems and challenges.

TEDGlobal is set to return to Tanzania in 2017, book-ending ten years of tech innovation in the region and giving an opportunity to review the progress that has been made.



Race to get ICT initiatives into action



Governments are taking an increasingly active role in supporting the growth of ICT across Africa, but a few countries have been particularly progressive with their policies.

In November 2015, the Rwanda government unveiled its Smart Rwanda Master Plan (SRMP), which focuses on digitising the Rwandan economy and positioning ICT as one of the key exports of the country by prioritising ICT research and investment.

As part of the plan, all government financial transactions will be electronic by 2018, more government services are moving online and close to 100,000 jobs will be created in the process.

Meanwhile, a draft of Kenya's new ICT policy emerged in 2016, which outlines the government's ambitious plans for the next five years. The progress of these two initiatives is likely to prompt other African governments in pursuing more sophisticated ICT policies.



AFRICAN.

We can help grow world-class business out of Africa.

We believe in the ambition and potential of African business. It's why we've built Africa's largest fibre infrastructure and provide an award-winning satellite network, capable of keeping any enterprise connected, protected and competitive at all times. Because we are not just a telecoms company.

We are your technology partner.

LIQUID
TELECOM

Building Africa's digital future

Communications long-standing bond with innovation



Ben Roberts
CTO, Liquid Telecom

The communications world has been a constant stream of innovation over the past 10 years.

I recently read that SAT-1, the first subsea cable connecting southern Africa, had just 360 telephone circuits. Using the latest technology, cables can be built for a capacity of 300 million voice circuits.

We started out connecting Africa for voice with [satellite communications](#). As our business grew, new error correction codes emerged that made the technology faster and more reliable, allowing us to supply more bandwidth for the same cost. The same technology trend has happened over the same period with all wired and wireless technology.

Today, we are seeing demand for data far outstrip demand for voice. The whole landscape of what consumers globally use their communications devices for has changed. And Liquid Telecom has changed accordingly.

We saw where the demand for data was heading and that we couldn't satisfy it with satellite alone. So we shifted our focus to fibre, and how we could get fibre delivered inland to cities, buildings, mobile towers and people.

That initially started with good old fashioned digging. But digging comes at a cost and so our innovation became about how we could deploy and operate fibre faster and cheaper – we explored and deployed everything from microtunnelling to passive signal amplification, [winning a few awards](#) for technology along the way.

In recent years, the focus of our innovation has fallen on the application of what customers can do with our networks. We've been exploring new partnership models with African and global innovators that can fully utilise the strength of our networks.

We want to see innovation solve African problems, and by that I don't just mean social problems but the much broader spectrum of challenges facing businesses across the region today.

African start-ups are raising money and scaling rapidly. The next step for them is to look beyond their domestic markets and into other countries across the region.

Overregulation has sometimes prevented the growth of pan-African business, but from



ABOUT BEN

Ben became CTO at Liquid Telecom in 2006, joining from the Econet Group. He has been responsible for network and product strategy as Liquid Telecom's fibre network has expanded. Ben brings experience in a range of technologies in design, support, integration and operations roles.

He is currently CEO of Liquid Telecom Kenya, living in Nairobi.

a technology perspective there are no barriers - Liquid Telecom has the networks to support businesses grow across Africa and the rest of world.

In Kenya, we have been supporting innovation providing [connectivity to some start-up co-working spaces](#), and working with local tech start-ups such as [BRCK to bring connectivity to underserved rural areas](#), and Angani to deliver cloud services to SMEs. The past few years for us have been about growing and scaling a huge interconnected pan-African network. Moving forward, we intend to re-focus on innovation and would like to continue to engage more with African-originated innovation and understand how we as a connectivity provider can help make their business truly pan-African.

WHAT MAKES AN AFRICAN TECH START-UP TICK?

Africa's start-up ecosystem is still at an early stage of development, with access to funds and other critical resources needed for it to make the next crucial steps. A range of experts give their view on what is needed to better support start-ups and help them grow their business across the region and beyond.





Clinton Mutambo
CEO, Esaja

Clinton Mutambo is the CEO and Founder of Esaja; an open marketplace to connect African businesses to latent buyers and suppliers beyond their immediate markets. Founded in 2013, Esaja aims to connect businesses within and outside Africa to new opportunities opening up across the continent.

“We need to align ourselves to the challenges of Africa and view them as advantages.

When taking an idea through from concept to reality, it is important to understand that we operate on a mobile continent.

Power, for example, can be a major stumbling block. When power cuts happen, the core mitigation is to use mobile phones – so this must

be factored into any enterprise-focused product.

If there is a fibre cut or even something as basic as an ADSL cable snaps, it can sometimes take up to 8 weeks to fix it. Always have a contingency plan with Africa. Our office has fibre, WiMAX and mobile dongles so we are never reliant on just one as there's no quick fix a lot of the time.

At a grass roots level, more hubs and co-working spaces have come into play, but they're not yet the centres of enablement we need them to be. We haven't seen a Y Combinator level of accelerator emerge on the continent yet that is seriously addressing local problems, giving start-ups resources and enabling them.

Silicon Valley has succeeded by attracting and retaining the best talent – like the South African Elon Musk, for example. I think a lot of African countries could also draw inspiration from the progressive policies of the UAE.

Cross border commerce will be vital. It's a difficult proposition but the opportunity outweighs the risk and governments need to figure this out. Moving forward, trade corridors could be key to really getting pan-African business going.”

At a grass roots level, more hubs and co-working spaces have come into play, but they're not yet the centres of enablement we need them to be.



Marcello Schermer
Regional Manager for Africa, Seedstars World

Seedstars World runs one of the world's largest start-up competitions, and is active in over 65 emerging and developing markets, including 20 African countries. As well as running a successful academy programme, which launched in Nigeria last year and will be rolling out to more African markets soon, it also offers access to a network of co-working spaces, incubators and accelerators.

“Our goal is to unearth entrepreneurs from all over the world, particularly in emerging markets. Innovation and entrepreneurship is growing across Africa. The Seedstars World Global Winner in 2015, for example, was a South African start-up called Giraffe, which designed a mobile app that lets businesses hire medium skilled staff, while at the same time connecting jobseekers to new opportunities through their mobile phone. It now has over 2000 users across South Africa and has attracted funding from eBay founder Pierre Omidyar. In the last few years, more entrepreneurship programmes have been popping up across the continent, but there's still

a big knowledge gap in terms of how to run start-ups successfully.

Regulatory environments are still geared towards big companies and not SMEs. This is changing slowly as we see some more progressive regulatory environments emerge, and more resources becoming available.

Corporates are also beginning to work more with start-ups. They can see disruption is on its way, and that it is better to work with the next-generation of businesses than work against them.

We are all still trying to figure out the best model for corporates and start-up to work together. The start-ups don't know how to work with the corporates and vice versa, so even if there are synergies, they often don't know how to tap into it. In our experience, the main benefit a corporate can bring to a start-up isn't funding. It is more about how they can help bring them to market and provide access to resources. It is about finding common ground and seeing how you can help start-ups grow their customer base.

The tech start-up scene varies country-by-country across Africa, and there are a lot of different stages of development here. However, what I would love to see happen next is for the first truly pan-African start-up to emerge, which successfully grows its business across borders.

I also want to see an influx of knowledge coming into the continent, and for there to be greater awareness among investors and governments in the needs of start-ups.”

They can see disruption is on its way, and that it is better to work with the next-generation of businesses than work against them.

Eric Osiakwan is Managing Partner at Chanzo Capital; an early stage micro-venture capitalist firm investing in both capital and mentoring in tech start-ups and scale-ups in Kenya, Ivory Coast, Nigeria, Ghana and South Africa (KINGS). Chanzo Capital invests between \$25,000 and \$2 million staggered over the early life of a company, providing support over a three to eight year period. Eric has been an entrepreneur and investor for 15 years in the ICT industry, working in 32 African countries setting up ISPs, ISPAs, IXPs and tech start-ups.

“The local ecosystem is still developing, particularly on the investment side.

At the top, there are the private equity companies and venture capitalists, which are engaging in more M&A activity in the tech sector, but are generally limited by the development of the stock markets here - IPOs are slow to happen but that is changing. And at the other end of the scale, there are the angel and seed investors, which are growing in numbers but are often unable to invest when the stakes get too high.

The missing gap is the micro venture and growth capitalists, which you see in Silicon Valley and other advanced technopoles. Chanzo Capital is fulfilling that gap in the market - we're able to take a bigger risk and interest in start-ups and scale-ups, co-investing and following up from the angels and seed investors.

But it is not all about money. The supporting ecosystem is just as important, such as academia, research and government initiatives. There needs to be a culture of collaboration - of sharing

knowledge, expertise and experiences. Up until now, the private sector has been taking the lead, but governments are starting to wake up and get more involved with the start-up scene. In February, the government of the Gambia, the European Union (EU), and the International Trade Centre (ITC) launched a US\$11.8 million project aimed at supporting entrepreneurship and job creation in the Gambia over the next four years. In Morocco, a seed investment fund dedicated to providing smart capital to African start-ups was recently set-up by respected angel investors and venture capitalists.

I think we are going to see more of these positive changes and a better environment emerge for start-ups and scale-ups. In the past, successful African entrepreneurs have emerged from traditional sectors, such as agricultural, financial services, real estate, etc. One of the things that Silicon Valley takes for granted is the wealth of experience on its doorstep - a young start-up can grab coffee with an experienced tech entrepreneur and leverage their experience.

We don't have that here yet, but hopefully that will also change soon starting in the KINGS countries where we focus our primary investments.”



Eric Osiakwan
Managing Partner,
Chanzo Capital



The missing gap is the micro venture and growth capitalists, which you see in Silicon Valley and other advanced technopoles.



Aashiq Shariff is CEO at Tanzania's leading ISP Raha, which was acquired by Liquid Telecom Group in February 2017. Raha currently serves over 1500 businesses as well as a growing number of retail customers with a range of connectivity solutions, including fibre, satellite, WiMAX and Wi-Fi. Aashiq has served as Raha CEO since 2011.

“When it comes to connectivity, the focus from the start-up scene is on mobility. It is the communication choice of the masses, and a lot of today's services target smart devices.

There are an estimated 19 million internet users in Tanzania, approximately 90% of which are mobile.

Network operators like [Raha and Liquid Telecom](#) are empowering companies to roll-out new mobile networks in order to meet the strong demand for mobile broadband.

There are still areas of the country that need more connectivity, and we need to continue to help mobile operators deliver services to these areas.

Smartphone adoption will only increase through innovation. A lot of the population remains under the poverty line and there needs to be something more life-changing than just internet access that makes them commit to a mobile broadband subscription. It's a symbiotic relationship - connectivity and innovation need one another.

At [Raha](#), we try to help develop local talent through our internship programme, and we used to provide connectivity and Wi-Fi services to KINU in Dar es Salaam, which was an open space for Tanzania's tech community.”



Aashiq Shariff
CEO, Raha



Network operators like Raha and Liquid Telecom are empowering companies to roll-out new mobile networks in order to meet the strong demand for mobile broadband.





Barrett Nash
Cofounder, SafeMotos

Barrett Nash is Cofounder at SafeMotos; a smartphone app designed to make motorbike taxis safer and more convenient to use for customers. By equipping drivers with smartphones that send data on how they drive, SafeMotos can identify a safe driver from an unsafe one, then connects its customers to drivers who meet high standards.

“There are different societal pressures here. Launching a start-up is an extremely selfish thing to do – you’re throwing all your money at something that has a high failure rate. Most Africans do not have savings, and if they do, there is a strong duty to put your family through education, not risk it on setting

up a new business. The start-up ecosystem is probably two generations away from having a disposable income. One of the biggest challenges is developing a home-grown network of sophisticated talent. A lot of the talent leaves Africa. I think hubs are negative because they breed negative aspects of the tech ecosystem, specifically a ‘pitching culture’ rather than building companies. My criticism is the largest tech companies hoover talent, while not contributing to the local ecosystem.

There is a growing trend of start-ups going from start-up competition to start-up competition trying to win small funding. Instead of developing their strategies and KPIs, start-ups can spend a lot of time dealing with organisations that don’t know a thing about their business.

The great thing about working in Africa is we’re not just copy and pasting pre-existing business models that you can find in a HBS textbook. We are trying to establish new business models.

From a creativity perspective that can be extraordinary. And from a pioneering perspective, it can be very rewarding. From a stress level, it gives you grey hairs.”

99 The great thing about working in Africa is we’re not just copy and pasting pre-existing business models that you can find in a HBS textbook 99



Hannah Clifford
General Manager
Nairobi Garage

Nairobi Garage is a co-working office space available to start-ups, techies and entrepreneurs in the Kenyan capital. It provides affordable, flexible office space and helps connects members to like-minded business partners, suppliers and investors, as well as offering them a range of workshops and seminars.

“Nairobi Garage was setup in 2012 by start-up investment fund 88mph, which was originally just looking for office space to run its own operations. However, in the process it realised there was demand for flexible, affordable office space in Nairobi, and so decided to also invest in a co-working space. The co-working space concept is not new, but we were the first to bring it to Kenya and it has big relevance here.

The obvious benefits of co-working spaces are cost-saving and access to resources. Young businesses do not want to have their money tied up in rent or furniture. Office leases can be up to five years in length in Nairobi and other African capitals, but most start-ups don’t know where they will be in two years, let alone five. We bring

a level of security for start-ups and can provide practical guidance, such as making sure all their paperwork is in order. But perhaps one of the biggest benefits for our members comes from networking. Freelancers and start-ups serving SMEs particularly find a lot of opportunity at Nairobi Garage. A lot of the companies we host now work together.

A generation of more established start-ups have emerged at the co-working space, who have naturally become the voices of leadership to the younger smaller businesses. We also have the space to host larger companies at the facility, and so start-ups often find themselves next to the likes of Uber. I think that’s what makes Nairobi Garage appealing – that variety of companies under one roof.

All start-ups want the same thing from a co-working space: fast, reliable Wi-Fi and a nice working environment. We have learnt that if you want to attract good members, you need a good space. The market and investor pool here is still young and small compared to the US and Europe.

Companies are attracted to good infrastructure and cheap talent, and so many African countries have a long way to go to compete better. But we have certainly noticed stronger interest from the investment community in African start-ups, particularly when it comes to innovation around the bottom of the pyramid. Investors go where they see opportunity. And investors are interested in African start-ups.”

99 The co-working space concept is not new, but we were the first to bring it to Kenya and it has big relevance here. 99

Start-up thoughts in a rapidly changing Africa

Some tips and potential pitfalls for the next-generation of start-ups to avoid when growing their business...



Erik Hersman
CEO, BRCK

We're halfway up the mountain. Just a decade ago, the tech scene across Africa was nascent and the focus was primarily on infrastructure.

About five years ago, the start-up activity began in earnest. Tech hubs like iHub in Nairobi, ccHub in Lagos, and JoziHub in Johannesburg emerged, which helped focus the attention and energy of start-ups, investors, media, and large tech companies into a common space. It gave us all a larger target to find people who had a common interest and helped accelerate tech startup growth in these cities.

A number of these first generation of start-ups which fought for funding have now grown into successful businesses. Some have failed, which is the way of the start-up world. The ones who have grown and have traction are proving that start-ups here are worth investing in – sometimes to the tune of over \$20 million.

The world has changed; Africa is no longer just a consumer of technology – it is a creator of technology that is being used around the world. That shouldn't be surprising anymore.

But it is still early days. We are waiting to see bigger companies emerge from the start-up space, and put their stamp on the region. We are also still waiting to see the first big exits that will put the African start-up scene on the map.

For the next-generation of start-ups across the region, here are some tips and potential pitfalls to avoid when growing your business...

Whoever pushes longest and hardest wins

This is about having the drive and tenacity to succeed. It is about finding the ability to push

ABOUT ERIK

An entrepreneur and technologist, Erik Hersman is focused on advancing the use of technology in Africa. He is the CEO of BRCK a rugged wireless Wi-Fi device designed and engineered in Kenya for use throughout the emerging markets.

Hersman facilitates a host of web, mobile and community projects through organisations like iHub, a Nairobi innovation hub for the technology community, bringing together entrepreneurs, hackers, designers and the investment community. The mobile app Ushahidi, which he co-founded, allows users to share breaking news through text messaging.

He is also a general partner in the Savannah Fund and sits on the boards of Gearbox, Akirachix, the Kijabe Forest Trust, and the Whitaker Peace and Development Initiative (WPDI). You can find him on Twitter at @WhiteAfrican.

through during the hard times, and not expect instant results.

Everyone wants to hear about the overnight success stories, but behind each and every one of them is at least three to five years of hard work and dedication.

Patience, persistence and stubbornness are essential during the early days of any start-up.

Find the quickest path to revenue

Often young businesses spend much of their time and energy focusing on incremental changes to their services and products instead of chasing new business. They prioritise this over making sure there is demand for what they are selling and finding customers willing to pay for it.

It is crucial to establish the business case and the revenue base first. As soon as you've done that, more opportunities appear to develop the product and service side of the business.

Listen to the customer

Sounds obvious, right? But a common mistake by all start-ups – no matter where they are in the world – is they assume they know what the customer wants. They rarely sit down to listen or watch them using their product.

We find there are huge benefits to simply asking our customers questions and observing them with the product. It helps create a better product, experience and relationship.

The lesson is make sure you establish an open dialogue with your customers.



A new crop of rural innovators

While many start-ups focus on developing solutions for urban areas, a growing number are turning their attention on how to tackle problems in rural regions. Here the challenges are far steeper, but the rewards for local communities are much higher.



An estimated 65% of Sub-Saharan Africa's labour force works in the agriculture sector, which accounts for one-third of the region's GDP, according to the World Bank. At the same time, rural areas are home to some of Africa's poorest communities.

Increasing agricultural productivity is therefore critical to lifting large numbers of rural households out of poverty.

Enter technology and innovation, which can play an important role in supporting Africa's agriculture sector, empowering farming communities with

information that can help drive efficiencies and ultimately increase yield and profit.

Unlocking this potential is arguably one of the largest challenges facing the region's start-ups, as here the levels of mobile and internet penetration are at their lowest and the target customer-base has precious little disposable income. With the support of governments, academia and NGOs, a growing number of start-ups are developing innovative solutions and services that navigate these obstacles in order to help support rural communities living close or under the poverty line.

Insurance for the future

Often this means tackling one issue at a time. In the case of Pula Advisors, that means bringing insurance products to small farmers for the very first time.

Insurance penetration is extremely limited across rural areas of Africa, putting small farms at risk from low productivity that can lead to devastating consequences. Pula Advisors hopes to break that cycle of poverty by acting as a bridge between the insurance firms and small farmers.

"We are a team of actuaries and agriculture economists that get insurance products priced in a way that insurance firms understand, and get the insurance products out to farmers in a way they understand," says Rose Goslinga, Director of Pula Advisors.

Pula Advisors achieves this by collecting data, be it from weather stations, governments, private farmers or satellites, that is used to generate yield estimates that can help farmers get on the insurance ladder for the first time.

Yet the innovation doesn't end there. Pula Advisors also had to think strategically about how to raise education among farmers to the benefits of insurance.

"Insurance is high volume, low margin. And we are often working in environments where the insurance penetration is 0%. How do we get these insurance products to the masses?" says Goslinga.

It explored new distribution channels, bundling its insurance products with seed and fertiliser companies that provided farmers with insurance coupons to register at local shops.

The hard work is beginning to pay off. In 2016, Pula Advisors succeeded in getting structured insurance products to 400,000 small scale farmers across five African countries. "As the data sets get richer there is more opportunity to support smaller farmers," says Goslinga. "Satellite technology is going through a revolution here, and how we interpret that satellite data along with ground data, will be extremely valuable."

In the longer term, emerging technologies such as drones and Internet of Things (IoT) could also play a role in generating richer data sets. "We already use remote sensor data to monitor farms, and although we haven't used drones so far, I think that's something we will certainly see more of in the future."

Drones enter the field

One company already looking ahead to drone technology is DroneClouds; a Cape Town based partnership between IntegriSense and Afrolabs.

DroneClouds aims to give farmers the benefits of modern remote sensing through affordable and on-demand crop insights. It does this via a cloud platform that uses aerial imagery generated through its global network of drone operators and satellites.

ADDRESSING A GENUINE PROBLEM

Ghanaian start-up mPedigree is most widely known for its mobile pharmaceutical anti-counterfeiting solution. Launched some 10 years ago by social entrepreneur Bright Simons, mPedigree set out to tackle the growing issue of counterfeit drugs – African markets have been flooded with fake and poor-quality drugs from the global counterfeit drug trade, which has sadly become a multi-billion dollar industry.

mPedigree allows consumers to verify the authenticity of their medicinal products by text-messaging a unique code found on the product – usually in the form of barcodes and scratch-off stickers. The request is routed to mPedigree's servers and then consumers receive an instant response to authenticate their purchase.

The service helped manufacturers and regulators to secure the drug supply chain, and was quickly rolled out to neighbouring Nigeria, where it experienced further success. Today, the service is found in over ten countries across Africa and Asia.

mPedigree is now increasingly turning its attention to the agricultural sector in order to better protect farmers from counterfeit seeds. In 2015, the start-up partnered with the Uganda National Bureau of Standards (UNBS), Feed the Future Uganda Agricultural Inputs Activity and the Ugandan corporation RenPublishing to roll out its solution to the country's agricultural sector. In Kenya, the company also partners with the Agric Ministry through the Kenya Plant Health



Inspectorate Service (KEPHIS) to track all seeds planted in the country.

"Our solutions can work across a variety of sectors. We found that farmers were purchasing seeds during farming season, to only discover they were fake – which had a disastrous impact on their farming as well as the local economy," says Eugene Boadu, Head of Corporate Affairs at mPedigree.

It is a harder challenge raising awareness in rural areas, says Eugene, where education levels and exposure to technology are much lower than in urban areas.

"We want consumers to be sure that the products they are consuming are verified and genuine. We want to change consumption patterns across the region," he says. "At the moment, we are exploring new ways for companies to put the right information across to consumer via their phones, rather than traditional advertising channels."



As the data sets get richer, there is more opportunity to support smaller farmers.



Founded in 2015, the company quickly went on to win a competition by the South African National Space Agency (SANSA) and Airbus Defence and Space (ADS) for its cloud-based innovation.

With the support of these organisations, DroneClouds has begun scaling its operations and finding new ways to use earth observation data to support farming operations.

"We are able to look at a region of small subsistence farmers and identify gaps in their education based on their farming activities," says David Campey, Founder at Afrolabs and Cofounder at DroneClouds. "So for example we analyse nitrogen use and see if there is a pattern of not applying or over applying nitrogen in the fields."

David admits that current product offering is a "bit too high-tech" for many small African farmers, and that the company is still working out how to make the product "super affordable".

"We are generating lots of data which will create further insights for the academic world as well as provide further learning for farmers. Currently our work is focused on commercial farmers with over 50 hectares, but in the long term, we will focus more

Start-ups are exploring how to use drone technology to monitor farms



on smaller farmers with less than 10 hectares and how we can help them out of poverty,” says David.

Creating a network of local knowledge and expertise, including local governments, will also be key to unlocking the potential of the data sets generated by the satellite and drone networks: “Experts with local knowledge is a critical component to interpreting the map imagery. The next stage will be machine learning, but at this point, we rely on humans for local knowledge,” says David.

He also has high hopes for the future of drones and imagery acquisition technology moving forward. “I see the application of drone technology being like the rollout of mobile technology. Delivery drones bypasses the need to construct complex road networks. It’s a leapfrog technology,” says David.

“Similarly, with imagery acquisition technology, the drones replace airplanes and surveyors on the ground. It bridges a technological divide and takes something that was once only accessible to high-tech corporations and makes it available to small farmers.”

Innovating across the supply chain

Across the supply chain, start-ups are exploring new ways to empower farming communities.

Be it better ways to care for livestock, such as iCow, which allows farmers to register their cows



**Across the
supply chain,
start-ups are
exploring
new ways
to empower
farming
communities.**



and receive SMS reminders about milking schedules and immunisation dates as well as provide other nutrition or breeding tips. Or new platforms for farmers to share information, such as Kenyan start-up WeFarm, which has developed a peer-to-peer (P2P) knowledge sharing platform targeting small scale farmers, allowing them to ask questions via SMS and receive responses from other registered users. Or new ways to trade, such as the Mifugo.trade platform; an online exchange that directly connects livestock producers and buyers. It allows a network of training assessing agents to visit livestock sellers, evaluate animals and upload relevant information on an animal sale to the platform via their smartphone. Buyers then bid for the animals on the platform.

Even so, the low hanging fruit for start-ups remains in urban areas, where development is happening fast and the emerging middle class lives.

Efforts to assist rural communities are often subsidised by government, academia and CSR. Moving forward, the advancement of farming practices across Africa will hinge strongly on greater government support.

“Governments have a big role to play,” concludes Rose at Pula Advisors. “They need to step up and invest in the farmers that are feeding the market. We want to see them take more responsibility. There are huge rural population and smart policies can help economic growth.”

About Liquid Telecom

Liquid Telecom is the leading independent data, voice and IP provider in Eastern, Central and Southern Africa. It supplies fibre optic, satellite and international carrier services to Africa's largest mobile network operators, ISPs, financial institutions and businesses of all sizes. In February 2017, [Liquid Telecom officially completed its acquisition of Neotel](#), South Africa's first converged communications network operator, for ZAR6.55 billion, creating the first pan-African fibre player.

Liquid Telecom has built [Africa's largest single fibre network](#) currently spanning over 40,000km, including Neotel's network, across borders and covering Africa's fastest-growing economies where no fixed network has existed before.

Liquid Telecom's network provides connectivity onto the five main subsea cable systems landing in Africa; WACS, EASSY, SEACOM, SAT3 and TEAMS.

Working under various brands, the Liquid Telecom Group has operating entities in Botswana, DRC, Kenya, Lesotho, Mauritius, Rwanda, South Africa, Tanzania, Uganda, UK, Zambia and Zimbabwe.

The company has been named [Best African Wholesale Carrier for the last five years](#) at the annual Global Carrier Awards.

Why Liquid Telecom?

It takes an African company to really understand the challenges of connecting businesses in Africa. Liquid Telecom provides connectivity services for enterprises across many sectors. In an increasingly competitive environment, we are one of the few African operators able to use carrier-grade services to enhance network efficiency.

Suitable African partner: Given the uniqueness of Africa, it is an imperative that companies partner with a service provider that understands your requirements and can deliver against the unique African challenges.

Professional project management: Our solution will be delivered through internationally recognised project management methodologies and techniques. Our account management engagement is based on internationally recognised best-practice - with a single point of contact - thus providing engagement for both implementation and on-going service delivery.

Extensive local experience and knowledge: Our African heritage, depth of skills and extensive knowledge in the required areas, are supported by established facilities, capabilities and resources in diverse African regions. Strong local knowledge and skills ensure professional, rapid and lawful deployment.



We're one of the few African operators able to use carrier-grade services to enhance network efficiency.



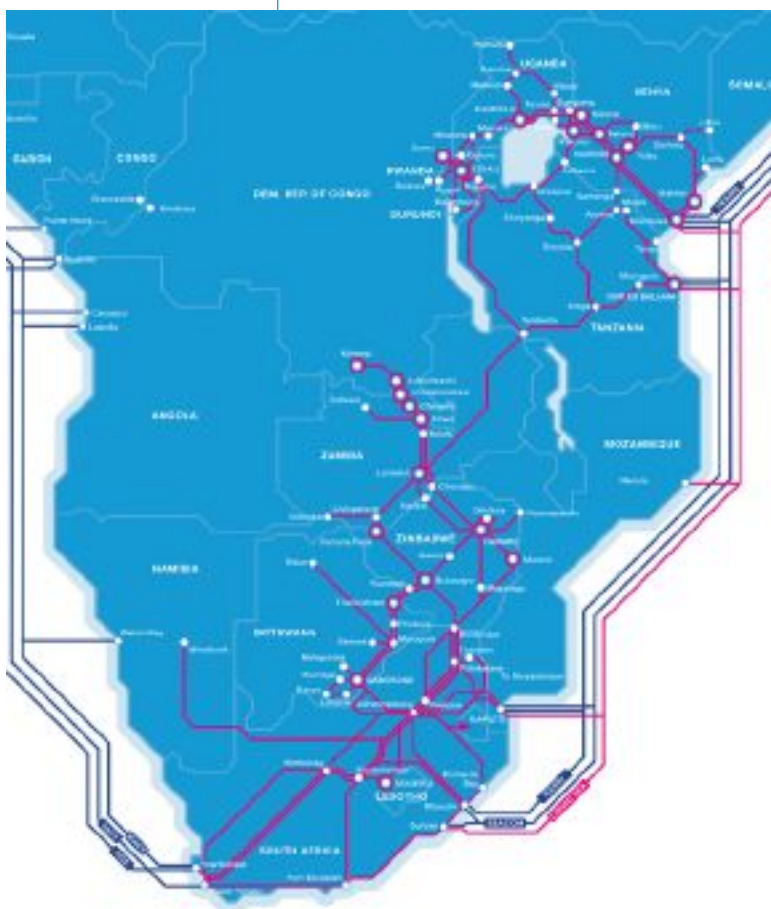
Enviably service levels: We deliver and manage multiple networks using enviable service standards through expertise in African implementations. Experience, capacity, expertise, management tools, local skills and a wide footprint ensure the achievement of these service levels.

Managed risk: Our knowledge and experience of communication services' standards and requirements ensure that our solution is compliant to the extent that all potential risks for such a project are identified and mitigation plans crafted.

Proven ability: We help our customers to simplify communications supply chain by reducing the number of operators they use through our single network.

Our network

We've worked hard to build a network like no other in Africa. One that benefits all of our customers, from the biggest corporate to the man on the street. Liquid Telecom has built Africa's largest independent fibre network which runs from the north of Uganda to Cape Town, covering Africa's fastest-growing economies, where no fixed network has ever existed before.



AFRICAN OFFICES

MAURITIUS (Head Office)

5th Floor, Ebene Mews
57 Cybercity
Ebene
Tel: +230 466 7620
Fax: +230 467 8263

BOTSWANA

F20, 1st Floor, Fairground Mall
Samora Machel Drive
Gaborone
Tel: +267 391 8533
Fax: +267 391 8531

DRC

Boulevard du 30 Juin
Immeuble Ruwenzori
5eme Niveau Local A
Kinshasa/Gombe
Tel: +243 816 515 039

KENYA

Sameer Business Park, Block A
Mombasa Road
Nairobi
Tel: +254 20 5000 000
Fax: +254 20 5000 329

LESOTHO

Kingsway Street
PO Box 1037
Maseru 100
Tel: +266 22 21 1000
Fax: +266 22 21 1178

RWANDA

Avenue De L'Armee
KN 67 ST #3
P.O.Box 6098
Kigali
Tel: +250 252 503 571

SOUTH AFRICA (Neotel)

401 Old Pretoria Road
Midrand 1685
Johannesburg
Tel: +27 11 585 0000

TANZANIA (Raha)

9th Floor, I.T. Plaza
Ohio Street/Garden Avenue
Dar es Salaam
Tel: +255 22 2125230

UGANDA

Plot 26, Wampewo Avenue
Bakwanye House, PO Box 8373
Kampala
Tel: +256 20 240 1100 / +256 41 456 2800
Fax: +256 41 434 2192

ZAMBIA

Elunda 2
Addis Ababa Roundabout
Rhodes Park
Lusaka
Tel: +260 211 374 60 / 260 211 374 605
Fax: +260 211 374 622

ZAMBIA (Hai)

Pangea Office Park
Office Number 2,
Arcades Off,
Great East Road Lusaka
Tel: +260 211 255 037
+260 211 255 038

ZIMBABWE

4th & 5th Floors, ZB Life Towers
77 Jason Moyo Avenue
Harare
Tel: +263 8677 030 000

ZIMBABWE (ZOL)

3rd Floor Greenbridge
Eastgate
Cnr R Mugabe / Sam Mujoma Street
Harare
Tel : +263 8677 177 177

REST OF THE WORLD

UNITED KINGDOM

6 New Street Square
London EC4A 3BF
Tel: +44 20 7101 6100 / +44 20 7101 6200

UNITED ARAB EMIRATES

Dubai Distribution Centre RA08FH01
Jebel Ali Freezone North (JAFZA)
Dubai
Tel: +971 042 865 866

