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Chapter 2
On the Fast Track
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ON THE FAST TRACK

DEG, a German development finance institution, promotes innovative start-ups in Africa. They explain what types of ventures are most promising, what branches are on the rise, and what organisations to apply to if you're looking for support in implementing your own idea. [Read More](#)

Can an app improve health care? In Kenya it can. [MicroClinic Technologies](#), a Nairobi-based IT company, has developed ZiDi, a cloud-based information management system that controls some services and information flows in hospitals.

ZiDi helps hospital staff manage patients by storing patient charts, calculating the cost of treatment, and electronically billing a patient's insurance company. It also facilitates diagnosis and treatment. After a doctor or other health care worker enters a patient's symptoms into the online database, the system uses a special algorithm to generate a list of probable diagnoses.

The app also has a real-time stocktaking feature that alerts staff when a medication needs to be reordered. Twelve hospitals in Kenya are currently using the ZiDi app, and this number is estimated to grow to 250 by the end of 2017.

The ZiDi health care app is just one example of the technological development the exponential growth of mobile phone-based technology in Africa has made possible.

10 or 15 years ago, Africa bypassed the expensive and time-consuming expansion of the landline network to focus on upgrading mobile technology. This development is one of the most important catalysts for local and regional economies on the continent, and is fairly complete. Today eight of ten people in Africa have a contract with a mobile provider and reception is fairly widespread even in remote areas.

This technology jump – known as leapfrogging – allowed for dynamic economic development and created many new jobs: not just in the mobile technology sector itself, but also in companies that depend on mobile technology to expand their business activities. These include Kenyan start-ups like the M-Pesa, a mobile money transfer system that uses text messaging (mobile banking) to replace bank offices. The MicroClinic hospital app also uses an innovative payment system. Clinics pay a set fee per patient treated, currently between 0.30 and 0.65 euros. Like a pre-paid mobile phone contract, the clinic purchases a certain number of points in advance and tops up its account as these are used up.



Promotion for the ZiDi health care app ©MicroClinic Technologies



Promotion for the ZiDi health care app ©MicroClinic Technologies



Sendy's motorcycle messengers in Kenya. ©Sendyit.com

HOW DEG SUPPORTS DIGITAL START-UPS

The number of smartphones with mobile internet access is on the rise in many African countries, as is the number of apps that offer any function you can imagine, many programmed in Africa as well. These include apps that rate the safety of motorcycle taxis to make it easier to identify safe drivers, or use GPS to show where a particular driver is at any given time. There are apps for online shopping and for delivery and transport services. Nairobi is home to a particularly vibrant and growing app programmer scene. In 2014, for example, it produced “[Sindy](#)”, Kenya’s first on-demand delivery service that allows users to arrange for package pick-up and drop-off by bicycle or motorcycle messengers in individual cities.

[DEG – Deutsche Investitions- und Entwicklungsgesellschaft mbH](#) that funds pioneer investments through its Upscaling program, has witnessed a rise in the number of business plans submitted for newly developed apps. Before funding can be approved, every project undergoes a feasibility study to see if there is demand for the service it provides and if it can hold its own against possible competition. A general issue with apps is that many have simply been copied, or offer a service already covered by other existing apps. There have been many attempts to imitate the somewhat controversial success of the US e-hailing car service Uber, for example, though not all have proven competitive. The Upscaling program is for small and medium-sized enterprises looking to expand an innovative business model and whose financing needs fall somewhere in between a micro-credit and a conventional bank loan. Companies like MicroClinic with their hospital app, which DEG co-funded through the Upscaling program.

DEG also provides funds from the [developpp.de programme](#) of the [German Ministry for Economic Cooperation and Development \(BMZ\)](#). In Ghana, through developpp.de DEG helped support SAP, a software developer, in developing a method for improving the supply chain traceability of shea nuts. The system provides smallholder farmers with labels for use on the nuts they have harvested, and a scanning app allows the product to be traced back to the source to aid in organic certification, for example. Traceable nuts are easier to market and generate more income for smallholder farmers. This example shows that innovation can also emerge from established firms when they see an opportunity, as SAP did here, to bring countless smallholder farmers on board as potential software users.

FINTECH & RENEWABLE ENERGY ON THE RISE

Finance technology, or fintech for short, is another trend in innovation. Fintech refers to any technology used for financial services and the novel solutions offered by application systems outside of established finance. The mobile money transfer system M-Pesa is a trailblazer in the fintech branch. The goal of fintech is to simplify financial transactions and improve financial inclusion by offering parties otherwise excluded from the financial market ways to participate in financial transactions.

The number of cloud-based services that assist with data management is also on the rise. Cloud databases like the ones used by MicroClinic are one factor driving innovation forward.

In addition to the financial and agricultural sectors, renewable energies also offer plenty of space for innovative ideas. Back in 2012, DEG and the municipal utility of Mainz (Stadtwerke Mainz AG) were awarded a special price as part of the “PPP Innovation Prize 2012” for their work in establishing a renewable energy network to provide electricity to a community in Senegal. A company from Tübingen, Germany that specialises in generating energy from biomass served as the implementing partner on the ground. The firm supplied the technology to build a biomass power plant that primarily runs on the renewable resource of peanut shells and millet stalks.

Like in mobile communications, technology leapfrogging is also happening on the energy market, where the trend is toward off-grid energy. Large parts of Africa are not linked to national electricity networks, so off-grid solutions that de-centrally generate electricity on site are proliferating. The fall in the price of solar panels and batteries, for example, combined with high levels of solar radiation offer ideal conditions for using solar power to generate off-grid electricity.

Packages could be brought in by solar-powered drones.

Mobisol GmbH, a German solar energy company, has outfitted over 30,000 households in Tanzania and Rwanda with off-grid solar power modules. The environmentally friendly technology has been coupled with an innovative payment system. Customers pay for their systems in monthly instalments via mobile banking. Micro-entrepreneurs offer a range of services, like mobile phone charging, live viewings of sporting events, or cold drinks for sale. The latest chapter in the Berlin start-up's success story could be the delivery of packages to very isolated East African villages – by solar-powered drones.



Mobisol's off-grid solar power modules ©Mobisol

SUPPORTING INNOVATION & CREATIVITY

Why does innovative drive and spirit seem greater in some countries than in others? The government is a primary driver of innovation by creating framework conditions that promote it. Creativity alone is not enough; the support framework must also be present for creativity to be put to productive use. The requirements for founding a company and due process in Kenya have created a positive environment for entrepreneurial activities, for example. Kenya has succeeded in expanding the development that began with M-Pesa into an innovation cluster that almost rivals India.

Creativity alone is not enough; the support framework must also be present.

Organisations that offer young entrepreneurs start-up capital are also key to promoting innovative businesses and development. **Ashoka**, a US non-profit, is one example. It identifies and supports social entrepreneurs in around 70 countries. A social entrepreneur is defined as a person working innovatively, pragmatically and long-term to create tangible and positive change in society.

Ashoka fellows receive financial support, advising services, and are integrated into social sector, scientific, and private sector networks to help them propagate their projects and ideas. An Ashoka fellowship also includes very practical assistance, like a chance to lease part of an open-plan office and consult with legal experts. Muhammad Yunus, founder of the Grameen Bank and 2006 Nobel Peace Prize laureate for its micro-credit program, numbers among Ashoka's most famous fellows.

Start-up financing allows young firms to survive the first few years while they are primarily concerned with development rather than sales.

Making financing available to start-ups is another important factor in creating an innovation-friendly environment. This allows young firms to survive the first few years while they are primarily concerned with development rather than sales. Start-up financing can take the form of grants, business angels, early-phase funds, or even prize money. Moka Lantum, the founder of MicroClinic Technologies, was initially an Ashoka fellow and later used award money to finance his young company. In March 2016, MicroClinic took first place in the "Making More Health" award organised by Boehringer pharmaceuticals.



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