



## GAINING THE POWER TO RISE Fenix International + Aeris Provide Affordable, Clean Energy to African Nations



### CASE STUDY

*“Embedding Aeris’ technology in our solar home systems not only gives us unique insight into product usage and performance but IoT technology also allows us to provide scalable and exceptional customer experience at the last mile and reach millions more customers over the coming years.”*

—Amy Robinson,  
Sr. Dir. of Software & Data

Today, more than half of all households across Africa do not have access to any form of energy. This translates to more than 600 million people currently do not have electricity.

This lack of access to energy across such a vast continent means that a multitude of opportunities, both financial and social, are limited. Everything from schooling to farming is affected. The lack of access to energy is, therefore, one of the biggest factors in the continent’s current socio-economic status, with less opportunity to develop current industries, as well as limiting in the creation of new urban areas and business hubs.

Like much of the world, Africa also is contending with the issues of climate change. Most production for grid energy comes from oil, gas, and coal, with off-grid households across the continent relying on energy sources such as firewood and kerosene, which are extremely unhealthy when used

indoors. So, as well as a need for more access to energy, there is a real need for more sustainable, environmentally conscious, and healthier options.

### The Challenges with Clean Energy Accessibility

The primary challenge for energy providers is enabling wide-spread access to renewable energy sources. Developing this infrastructure is costly and could not take place without heavy investment from government and multilateral development support.

In addition, the up-front costs of renewable energy, for which a customer must make an investment that will pay off over several years, is out of reach for the majority of the continent. In spite of a strong demand for solar power in the region, 95% of African households can’t afford this initial cost because many families live on an average income of \$2 to \$10 a day.

“Fenix International has used one of the most common tools in Africa today – the mobile phone – to overcome one of the biggest constraints to renewable energy – up-front cost. With its simple and easy payment system, it has made electricity accessible to everyone. Fenix Power is ready-made for Africa.”

—K.Y. Amoaka, President,  
African Center for Economic Transformation

## Fenix International: Energizing Africa

Uganda, Zambia, Cote D'Ivoire, Benin, Nigeria, Mozambique. These are the fields of operation for Fenix. As a subsidiary of ENGIE, Fenix International is headquartered in Kampala, Uganda and is a next-gen energy company working for the past decade to bring clean energy solutions to rural, off-grid African homes. To address the growing need for electricity across Africa, Fenix is providing cost-effective solar energy solutions to thousands of households.

## Making Energy Affordable

At the heart of Fenix's technology is the company's lockable smart power system, Fenix Power. The product is an expandable solar home system targeting rural, off-grid families and sold through a flexible payment plan. It includes a high-quality solar power ecosystem that transforms sunlight into energy to run phones, lights, radios, TVs, and more. Customers set up the solar kits themselves, and can upgrade by adding more panels, lights, and accessories.

Additionally, Fenix partners with mobile money providers to offer solar power systems via mobile money payments, which allow customers to pay from their mobile wallet, bringing the up-front cost down so as to reach low-income households by making pricing even more affordable by cutting out all middlemen. Further, by studying energy spending data in depth, the company has been able to build pricing plans based on what customers can afford.

“We had never in our lives seen such light in our homes apart from the sun during daytime. Thank you all.”

—Nakintu A.,  
FenixPower Customer

## Fenix + Aeris: The Total Energy Package

Every Fenix Power system is embedded with an Aeris SIM card to allow for real-time interactions between the core Fenix application and every device in operation. The connectivity allowed by the Aeris SIM card enables Fenix to manage lockout on the device, display current key account information on the LCD display, update the firmware, and receive granular device reports from the field.

Customers make a deposit, take home their kit, self-install the system at their house, and repay their loan over 12 to 30 months for as little as \$0.14 per day. As the customer repays the loan, the system locks and unlocks automatically using Aeris SIM cards over the GSM network, allowing the power system to serve as collateral for the loan. Once a customer has repaid the entire loan, they then have access to free, clean, and safe power for the life of the system.

In addition to energy access, customers also build a Fenix credit score with each payment, helping them unlock access to future products, such as financial loans, power upgrades, TV upgrades, and revenue-generating products like hair clippers.

## Report Insights Improve a System

Using Aeris' carrier-agnostic IoT SIMs, Fenix can ensure that all active devices in any area of the operating country have a good connection and that electricity is available at all times. Being carrier agnostic, Aeris ensures Fenix can provide a highly effective service at all times. While many IoT solutions hit dead patches, Aeris allows for constant connectivity to be maintained, so devices can be monitored even in the most rural areas. The cost-effective Aeris connectivity solution fits right in with the company's affordability goals.

With the ability to continually monitor the system, the Aeris solution provides device reports that have both short- and long-term utility. Fenix is able to identify maintenance issues in real time, so they can be rectified as soon as possible.

Over time, insights from these device reports allow Fenix to build models to predict potential product issues and then communicate these to the customer. For example, if the output from the solar panel appears unexpectedly low, Fenix can reach out to the customer to check the position and recommend that they clean the panel. Another great example is detecting surges on discharge. Fenix knows exactly when and which port was plugged into the unauthorized device and can remind customers that this will void their three-year warranty and damage the battery. Wireless Connectivity improves the entire system.

### Across Africa and Beyond

Fenix seeks to improve the quality of life of its customers through inclusive energy



and financial services. The company has expanded rapidly, reaching more than 600,000 customers and positively impacting three million people across six markets. By next year, the company will have hundreds of thousands of IoT SIMs operating across Africa.

Every one of these SIMs represents a family that now has safe and clean electricity, most of them for the first

time ever. That electricity enables charging stations to power mobile phones, electric fans, LED lights, all of which enable children to do homework at night—and even can power TVs, so families can gain access to information, and enjoy a small luxury in life. Designed for both essential affordability and high quality, Fenix’s solar home systems, with Aeris connectivity, deliver ultra-efficient consumer electronics technology.

## Total Energy Package Benefits



### CONNECTIVITY AWARENESS

Always-on connectivity, as well as insights to each device, are central to affordable business models.



### EXPANDING BUSINESS MODELS

Mobile payment capabilities enable business models to encompass both energy and finances.



### INSIGHTS AND ALERTS

In-depth reports enable real-time issue identification, unauthorized device usage, or panel or device performance problems.



### RAPID SCALING

Carrier-agnostic solutions enable rapid deployment, even in remote areas.

## ABOUT FENIX INTERNATIONAL

Fenix International's mission is to transform customers' quality of life through disruptive innovation in energy and financial services. Fenix has sold over 500,000 solar home systems, bringing clean, reliable power for lights, phones, radios, TVs and more to over 2 million people. Fenix is a fully owned subsidiary of ENGIE, one of the world's largest energy companies and a leader in the move to renewable, decentralised and digital energy. Already the market leader in Uganda and Zambia, Fenix has expanded into new markets - Benin, Côte d'Ivoire, Nigeria, Mozambique - and continues to work towards providing more affordable, inclusive, and income-generating products. Within ENGIE Africa, Fenix is making universal access to modern energy a reality.

To find out more, visit [www.fenixintl.com](http://www.fenixintl.com) or follow them on Twitter [@fenixintl](https://twitter.com/fenixintl).

Contact:  
Marion Dehier  
Fenix International  
[media@fenixintl.com](mailto:media@fenixintl.com) for media enquiries  
[info@fenixintl.com](mailto:info@fenixintl.com) for business enquiries



## ABOUT AERIS:

Aeris is a pioneer and a leader in the market of the Internet of Things with a proven history of helping companies unlock value through connected technologies. We strive to fundamentally improve business performance by dramatically reducing costs, accelerating time-to-market, and enabling new revenue streams. Built from the ground up for IoT and road tested at scale, the Aeris Fusion IoT Network™ and the Aeris Mobility Platform span the IoT technology stack—from global connectivity to application services.

Visit [www.aeris.com](http://www.aeris.com) or follow us on Twitter [@AerisM2M](https://twitter.com/AerisM2M) to learn how we can inspire you to create new business models and to participate in the revolution of the Internet of Things.

United States Contact:  
[info@aeris.net](mailto:info@aeris.net)  
or +1 408 557 1993

Europe Contact:  
[EU\\_info@aeris.net](mailto:EU_info@aeris.net)  
or +44 118 315 0614

India Contact:  
[india\\_info@aeris.net](mailto:india_info@aeris.net)  
or +91 01206156100

© 2019 Aeris Communications, Inc. All rights reserved. No portions of this document may be reproduced without prior written consent of Aeris Communications, Inc. Specifications are subject to change without notice. Aeris, the Aeris logo, Aeris Connection Lock, and Aeris AerPort are trademarks or registered trademarks of Aeris Communications, Inc. in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such. 1019