



# Leading Solar in the DRC

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A CASE STUDY OF ALTECH  
Manuela Böck, 2021



PERSISTENT

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Founded in 2013, [Altech](#) is a Congolese founded and managed PAYGo solar company, that is leading off-grid energy development in the Democratic Republic of Congo (“DRC”).

Imagine starting with humble savings for just 3,000 solar lanterns and, in less than 10 years, providing electricity for thousands of Congolese people while building one of the most profitable and impactful businesses in the off-grid energy space.

Meet Washikala Malango and longwa Mashangao, the visionaries behind Altech, a Congolese founded and managed pay-as-you-go (PAYGo) solar company. Started in 2013, Altech has grown into the leading off-grid energy provider in the Democratic Republic of Congo.

Persistent, Africa’s climate venture builder, saw the potential of Altech and partnered with them in 2018. Persistent has invested in and supported Altech through its venture building services, including securing a total of \$15 million in grants, inventory financing and equity.

## The Problem

Eighty percent of the DRC's population lives in extreme poverty, and more than 85% has no access to energy. The business environment in the DRC is challenging due to governance issues, difficulty in enforcing contracts, currency volatility/devaluation and inadequate investor protections. Not surprisingly, securing sufficient financing in such a volatile and risky market is difficult.

## The Opportunity

After facing strong demand from customers, Altech founders Malango and longwa spotted the tremendous market opportunity in DRC: 70 million people continue to live without electricity, accounting for 10% of Sub-Saharan Africa’s off-grid population.

To address this gap, Altech provides solar energy products to the Congolese people, with a diverse product portfolio including solar lanterns, lighting solutions, solar home system (SHS) and appliances, and efficient cookstoves.

## The Partnership

In 2018, Altech partnered with Persistent to secure grant financing from the Swiss RE and Shell Foundation via Persistent's network. In addition, Persistent provided a USD 200,000 loan to finance product expansion.

The venture building services provided by Persistent include accounting and cash management, creating Altech’s fundraising strategy, setting-up a professional financial model, creating investor pitch materials and leading fundraising efforts.

To help Altech achieve its next stage of growth, Persistent and Altech entered into a venture building agreement in Q3 2019. Manuela Böck, Venture Builder at Persistent, made the company investable by advancing Altech’s financial statements and reporting, as well as preparing information materials. Since then, the company has raised \$10 million in debt, of which the biggest win is a \$6 million facility secured in Q1 2021.

## Altech's vision and company culture



Co-founders and Congolese nationals Washikala Malango and longwa Mashangao grew up together in a refugee camp in Tanzania, after fleeing civil war in the 1990s. They received scholarships to the University of Dar Es Salaam and won the Washington Mandela Fellowship. Driven by their vision to create an impact at home and their personal experience growing up without electricity, they returned to DRC in 2011 and founded Altech two years later.

Altech currently employs 1,900 people. A genuinely remarkable fact when you consider that, only a few years ago, the company was just the two co-founders. They have developed an excellent company culture of inclusion and excellence, hiring highly motivated talent that shares their vision to electrify the DRC while improving the socio-economic situation of fellow Congolese. Anyone who spends time with Altech on the ground can feel the team's excitement and motivation to drive the company further.

## Outstanding social and environmental impact in DRC

Washikala and longwa founded Altech with the purpose to lift fellow Congolese. The team has since positively impacted the lives of more than 1 million Congolese through its sale of over 230,000 solar energy products. The company successfully operates in conflict zones and runs several electrification projects in refugee camps improving

the dire situation through electrification and creation of employment opportunities.

Based on industry wide impact metrics outlined by the off grid trade association GOGLA, households benefiting from Altech's products have reduced their monthly kerosene purchases by 61%, have saved an estimated \$35 million in energy costs and helped avoid over 285,000 metric tons of CO2 emissions. In a recent study by 60 Decibels across Altech, consumers showed that twice as many women as men reported improved financial well-being and more leisure time as a result of owning solar energy products. More spillover effects include access to information through radio and television and broader impacts such as improved nutrition, quality of lifestyle, and security at home.

## A lean and profitable business model

In its early years, Altech had no access to external capital. This undoubtedly hindered the company's growth, but it necessitated an unyielding prudence and focus on efficiency and profitability from day one.

Solid unit economics with high gross margins over 60% and an efficient sales and distribution network keep operating costs low. In lieu of pursuing a venture capital-like growth at any cost model that has been common in the sector, Altech grew its operating overhead in line with ongoing sales.

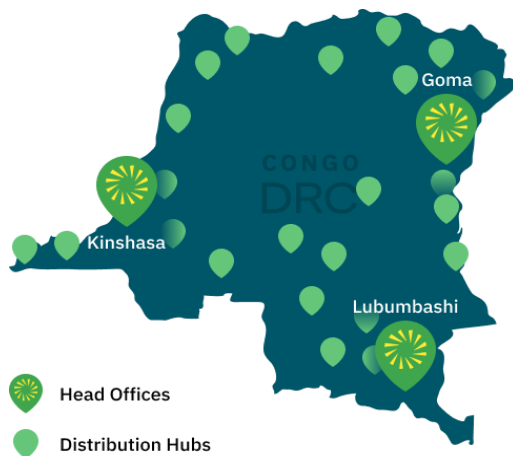
Altech stayed lean and achieved profitability even by only selling solar lanterns, which is truly remarkable and something most investors consider impossible without subsidies. Altech stayed true to its nature, remaining profitable even as it began selling Solar Home Systems last year, an achievement that many established players with millions of financings have yet to reach.

**Innovative solution:** Before PAYGo technology became available, Altech built its own solution by working with school teachers and health workers and ensuring high collection rates. The accumulated earnings from its early customers enabled Altech to fund its ongoing product purchases and enabled the

company to turn into the leading solar player it is today.

**National distribution model:** While the DRC has a surface equivalent to Western Europe and 86 million inhabitants, it has fewer developed roads than London, making it even more challenging to reach most people in rural communities. Nonetheless, over the last eight years, Altech created a sales and distribution network with a national footprint.

In 2016, Altech opened its own sales shops and introduced a commission-based agent model. The company has since advanced its operations by dividing the country into six sales zones, with four strategic warehouses designed to receive and distribute inventory most efficiently. Altech supplies 65+ sales outlets and 1,600 sales agents across 22 provinces from its central warehouses. The company will expand its operations to the last four remaining provinces in the DRC by the end of 2022. Altech has established itself as the dominant off-grid energy provider company in the DRC, and the only such company with national reach.



## Altech's path to success

**Securing first external support:** After five years, management recognized a strong customer demand for more sophisticated products from an urban, higher-income market segment. Only 19% of urban households have access to electricity. To fully exploit the opportunity Altech needed external financial support. La Difference, the business incubator in Eastern Congo become its first partner, making the

company small loans that brought Altech to a stage where Persistent could come in.

**Successfully expanding its product portfolio:** Over the last six years, the existing customer base, the experience gained and consumer trust of Altech as a solar energy distributor put Altech in a unique position to leverage the demand for larger products. In 2019, the company piloted a product expansion to deploy 300 Solar Home Systems +TV kits, which largely exceeded expectations. Total unit sales increased from 18,000 in 2018 to 35,000 in 2019 – 60% YoY growth. During the same period revenue doubled.

In 2020, Altech continued to expand its product portfolio with efficient cookstoves. The company financed the expansion through a carbon finance partnership with BURN and raised additional funds with ELAN and UNCDF. Under the collaboration with BURN, Altech will profitably sell 20,000 efficient cookstoves over the next 12 months.

230,000	Products sold
1 million	Lives impacted
65+	Sales shops
1,900	Jobs created
\$4 million	Accumulated profits

**Professionalizing its operations:** In 2017, the company advanced its consumer financing through Angaza, a PAYGo IT solution provider in the off-grid energy sector. Altech also partnered with La Difference and Enable.digital - a Persistent sister company - to advance business intelligence to carry the growing business. As a result, Altech developed the Sombabien app in 2019 to sell and distribute efficient cookstoves, allowing customers to directly pay for their purchase with the app. Altech bundles the Jikokoa stoves, which use 50% less charcoal than traditional cookstoves, with cooking fuel supply via the app.

Altech is currently led by a core management team responsible for sales, customer service, product and logistics, finance, and business development. Altech expanded middle management across the six sales zones, streamlining operations and adding



management depth – freeing the co-founders to focus more resources on entering new geographical areas and expanding its product offering.

The company sees the continuous development and training of its existing team members as a critical competitive advantage. Management averages four years with the company, with many starting out in junior positions resulting in valuable market insights, practical experience and a strong commitment to the company.

**“It is truly amazing to see Altech's sustainable growth, especially over the last two years when we coupled management's deep operational expertise with the required financial capital to scale.”**

*Manuela Böck,  
Venture builder at Persistent*

**Fundraising struggles and wins:** While \$1.2 billion has been invested in the global off-grid solar sector since 2016, it was largely concentrated in five international companies. As of 2019 international support to the Congolese off-grid energy sector was limited to a \$25 million World Bank program. In 2020, investors also focused on follow-on funding for pre-COVID arrangements, making it almost impossible for smaller unfunded companies to catch up with established players.

As local entrepreneurs, the co-founders of Altech naturally do not have the same exposure to international donors, lenders and investors, as foreign founders

Persistent began actively supporting Altech in 2018, attracting international funding. Beginning in late 2019, under Manuela's leadership, the finance team professionalized its accounting system, developed a robust financial model, and created an investor pitch materials. Persistent made numerous investor

introductions in early 2020, with strong investor interest and feedback.



As COVID-19 expanded across the globe, investors quickly halted diligence on new investments. The lack of financing, combined with supply chain interruptions, resulted in a painful five-month stock out – a lost opportunity for Altech in lost revenue and losses in market share to better financed, more established players.

COVID-19 threatened the entire off-grid solar sector and could have been disastrous for other companies in the same situation. Altech benefited from its lean business model, efficient operations, long standing reputation and customer loyalty to survive. After a year of consistent effort, Altech improved the payment collection process by better incentivizing the solar agents for after-sales efforts and setting up management teams in each sales zone.

In Q4 2020, Altech secured \$4.25 million of financing, provided by key investors in the sector like SIMA/Angaza DFF, UNCDF, Kiva, and Lendahand. At the same time, Altech successfully raised \$0.62 million in equity from its Series A equity financing, led by Persistent.

## What's next?

In 2020 Altech faced many setbacks due to COVID-19. Nonetheless, the company booked impressive results by significantly increasing yearly sales and crossed the 1,000 monthly SHS sales milestone in December 2020. The achievement is truly remarkable considering Altech sold only 14 SHS+TV in January 2020. Consequently, Altech grew revenue and net profits by more than 200% in 2020. Altech is on track to achieve a similar revenue and profit increase in 2021, while maintaining a healthy portfolio.



Persistent has and will continue to support Altech through its venture building model i.e. strategic and operational finance management, capital raising and structuring, business analytics and development of KPI tools, and legal and human capital advisory. Persistent will also back Altech in its continuous product and business expansion, while cementing trust with international investors.

The growth trajectory sets Altech up for success as the company aims to reach its vision, while building Africa's largest and most reliable network to distribute clean energy products to the bottom of the pyramid customers and institutions serving them. Altech co-founder Longwa Mashangao says "We are proud of what we accomplished so far and are excited to continue this journey with the support of our investors. We are grateful for the increased interest in our mission and very happy to join forces to be the change we want to see in this world."

**"Persistent is the first private sector investor to provide Altech with significant capital and venture building support."**

*Washikala Malango,  
Altech's Co-founder*

## About Persistent

Founded in 2012, Persistent is Africa's Climate Venture Builder. We believe in the power of carbon neutral economic development in Africa and as such are the leading experts and pioneer investors in the renewable sector on the continent. We build commercially successful businesses that can scale sustainably, driven by the belief that it is the best approach to outsized climate and socio-economic impact in underserved African markets.

Operating out of Nairobi, New York and Zurich, we invest financial capital and human resources, through our venture building model, focusing on ideation to early growth stage. We often assign our team members (venture builders) to work in secondment operational roles, hand in hand with the management teams of our portfolio companies.

To date, Persistent has made 18 early-stage investments (2 exits) in PAYGO solar home systems, commercial and industrial solar, ecosystem enablers and e-mobility players. Next to delivering solid financial returns, we have also contributed to improving over 4 million lives, powering half a million households, avoiding over 1 million tons of CO<sub>2</sub>e, and creating 10,000 jobs to date.

Additional information and publications can be found at:



[www.persistent.energy](http://www.persistent.energy)



[www.altech-rdc.com](http://www.altech-rdc.com)

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