



**SOLARBAKERY**

**BREAD  
IS  
LIFE!**



**SOLARBAKERY**

**SUSTAINABLE.  
EMPOWERING.  
DELICIOUS.**





## WHO WE ARE

We are hungry. Hungry for change. With our container-based, solar-powered bakeries, we want to make our world a different, a better place. Because bread isn't just delicious. Bread is life. And has the power to sustainably improve the living conditions of many people. That is our firm conviction. And our drive.

Our target market is the global South. Here, we want to sustainably meet the ever-growing demand for fresh bread. Our solar-powered bakeries use the wonderful energy of the sun and are therefore predestined for structurally weak regions with no or inadequate power supply. Our self-sufficient "plug-and-play bakeries" are powered 100% by photovoltaic electricity and eliminate the need for expensive, environmentally harmful fuels.

The integrated power supply means that new markets can be opened up in the most remote areas of the world. Areas where production of fresh baked goods previously seemed unthinkable. The intended side effect is that the sustainably produced baked goods promote local value chains and open up completely new prospects for local people. The highly profitable business model creates jobs and thus supports the sustainable development of the local economy. After all, on average, literally up to 120 traders are employed per bakery. That is why our solar-powered bakeries are, above all, a powerful development policy tool. For more participation. More quality of life. And more self-efficacy.

In other words: Bread is life!



# OUR HISTORY

The impact driven startup SOLARBAKERY has its origins in the two founders' many years of experience in Africa. Simon Zimmermann built a containerized bakery in the past years in the 15-million inhabitant metropolis of Kinshasa/Congo, which generated sales of USD 128,000 in its first year of business. Around 120 women distribute the breads throughout the region.

The high demand for baked goods offered immense growth potential. But one problem was affecting operations. The frequent power blackouts in the Congolese capital led to numerous production stops. The built-in emergency generator was able to keep production running most of the time, but it consumed huge amounts of expensive diesel fuel and polluted the environment with emissions. When Simon Zimmermann got to know the Africa GreenTec founder Torsten Schreiber and asked him to share his many years of experience in the electrification of villages in Africa to help solve the problem.

The SOLARBAKERY is a containerized bakery, that can be shipped anywhere in the world. The invention's special feature: 100% of its electricity demand is produced by a photovoltaic system on the container's roof. While shipping, every technical part is stored inside the container, so it can be transported by conventional transport ways (trucks, rails, ships).

It is based on a 45'-HC-Transportcontainer, which was completely redesigned. Among other features a SOLARBAKERY container contains foldable extra-rooms to enhance the working area, a roof construction to mount the photovoltaic modules and an isolated technical area.

The whole baking process and the equipment were specifically chosen to be used with a photovoltaic electricity production and were optimized regarding their efficiency. With the support by the Federal Ministry of Economy and Energy the patent for the SOLARBAKERY-concept is pending.

Third Co-Founder is Daniel Petruccelli. After his career in investment-banking he decided to follow his passion and become a baker. After further trainings he became an international accredited master baker. Today he is the Head of Product for the SOLARBAKERY and the produced baked goods. The three founders combine all the necessary experiences in planning and implementing international projects, building and scaling Start-Ups and baking.

SOLARBAKERY developed the first and only containerized bakery in the world, which is operated by the usage of a photovoltaic system and can produce up to 3,000 breads per day. To make this output possible, the whole baking process was rethought and streamlined.

Already existing container bakeries are either dependent on the instable electricity grid or use solar mirror collectors, which only allow for a small production capacity.

The founders' experiences in the African market and the accompanying network result in a Head-Start against competitors, regarding a fast market entry on the African continent.





# CREATING IMPACT WITH SOLAR POWERED BAKERIES.



## ZERO HUNGER

Production of up to 3,000 nutrition rich breads per day



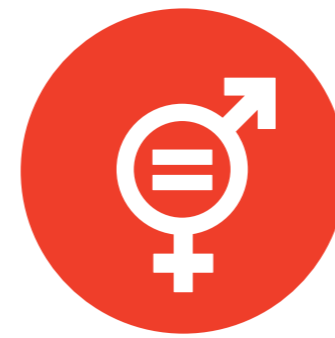
## CLIMATE ACTION

Each SOLARBAKERY saves 19,710 kg CO<sub>2</sub> per year. That makes for 54 kg CO<sub>2</sub> per day



## HUMANE WORK AND ECONOMIC GROWTH

Each SOLARBAKERY creates up to 120 Jobs and strengthens the local value chains



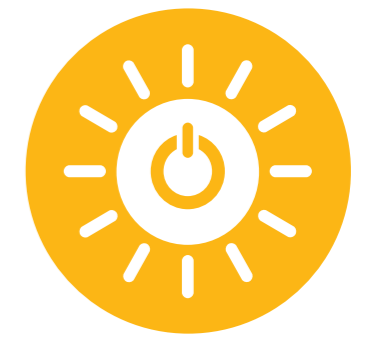
## GENDER EQUALITY

Up to 100 tradeswomen per bakery get empowered and self sufficient



## ZERO POVERTY

Creating Jobs – Independent of infrastructure



## CHEAP AND CLEAN ENERGY

Clean, renewable and cheap solarpower



# THE SOLARBAKERY

## SOLARBAKERY

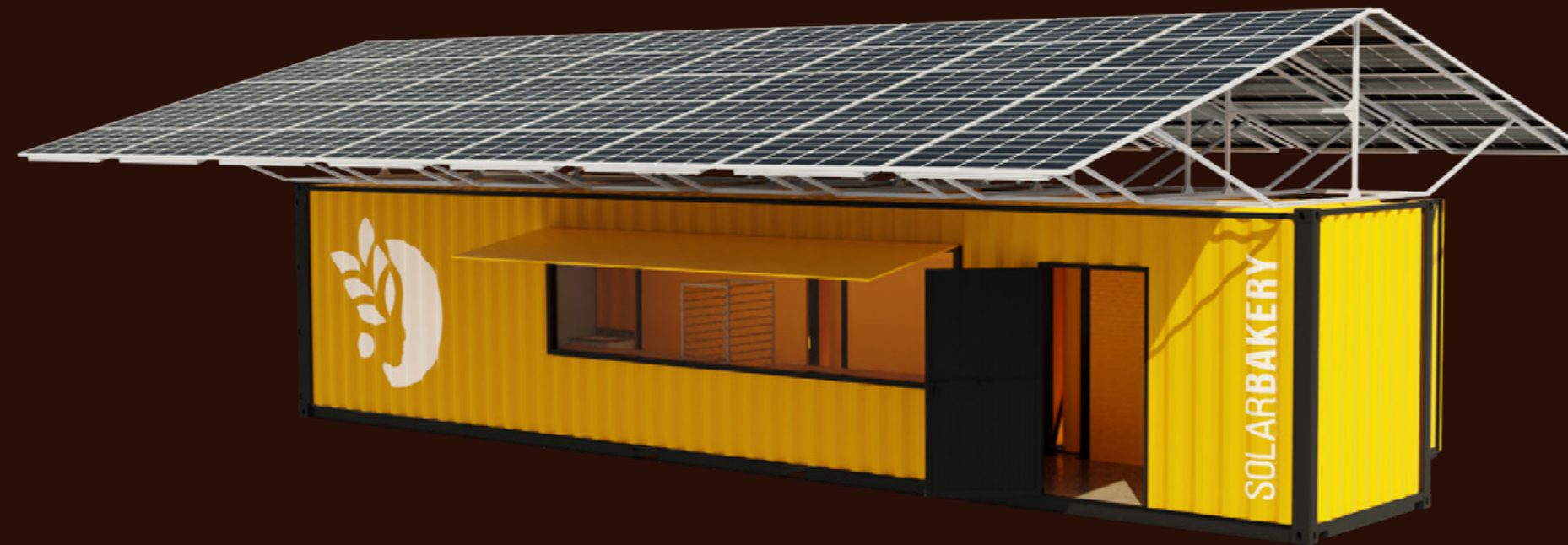
- First fully functional solar powered bakery in the world
- As Plug-And-Play-Solution immediately ready for production

## SPECIFICATIONS

Measurements	(LxWxH) 13.716 x 2.438 x 2.896
Energy Output	51,6 kWp
Energy Storage	76,0 kWh
Output Bread Production	75 kg / hr (3.000 baguettes / day)
Equipment	Rotary Oven, Spiral Mixer, Tables
Layout	fold-out rooms for fermentation & storage

## MOBILITY

- A unique mobility system allows a fast change of location
- Usable on any sunny location in the world. Thanks to its own power supply the bakery can also be operated in location with a weak infrastructure



## HIGH QUALITY EQUIPMENT

- Efficient, high-quality machines, adjusted to being used with photovoltaic power
- Loadout can be adjusted to the marked and wished products
- High hygiene standards
- Sealed, to prevent dirt and vermin to enter the container
- Floors meet hygiene and safety standards

## CONTRIBUTION TO ENVIRONMENTAL PROTECTION

- Saving 19,710 kg CO<sub>2</sub> per year, compared to the usage of diesel generators

## LOW-COSTS

- Compared to the usage of diesel generators a SOLARBAKERY saves about 15,000€ of energy costs per year
- Compared to the grid it saves around 5,000€

## ENHANCING LOCAL VALUE CHAINS

- Integrated mill makes usage of local wheats possible
- Creates independency from commodity imports and fluctuation prices due to international price speculations

## NUTRITIOUS, DELICIOUS BAKED GOODS

- Production capacity of around 3.000 breads per day
- Self-developed SOLARBAKERY recipes
- Adjustable to local demand and taste



# THE TECHNICAL CONCEPT



The SOLARBAEKRY, a worldwide unique Plug-And-Play bakery in a container. By Truck and ship it can be brought to any place in the world, even places without electricity.



Compact while transporting, but when arrived at the operation site it unfolds its potential. A specially developed roof construction allows for at least 119 photovoltaic modules to be installed. Producing around 53,55 kilowatts, they deliver electricity for the whole operations. Thus the bakery is 100% energy independent.



Expandable extra rooms extend the working area, and the batteries provide electricity even, when its dark outside.



That way, in the streamlined production, local workers can bake 3,000 breads per day. A ventilation system makes sure, that good working conditions can be ensured, even in tropical conditions.



But not only the roof, but also the interior is highly customized.

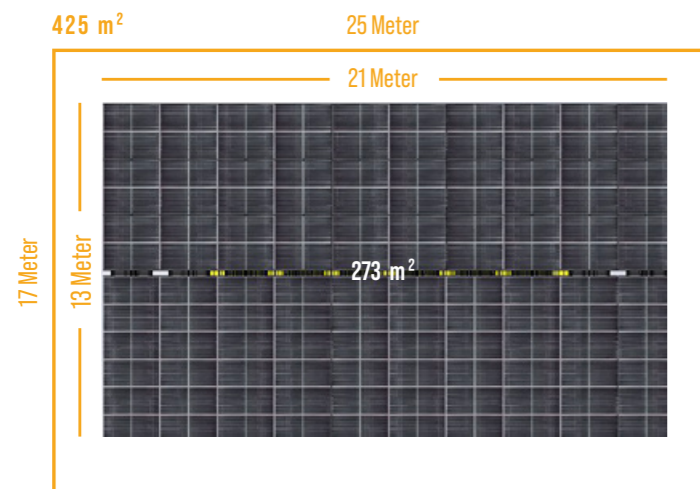


With our distributions model, each bakery creates jobs for up to 100 tradeswomen, who deliver the delicious baked goods to their customers.



## THE PERFECT SITE

- Located central, to achieve the maximal range
- The plot should be at least 15 meters wide and 20 meters long
- The highest efficiency is achieved, when the SOLARBAKERY is placed in a east-west orientation
- There should be no building, that could draw a shadow on the photovoltaic area



## A NEW PERSPECTIVE FOR CLARISSE



Travel, discover the world and most important study. These are the biggest wishes of Clarisse from the Congo. As oldest of ten the young woman is a role model and wants to show, how anyone can achieve their goals with diligence and responsibility. A project by SOLARBAKERY-Founder Simon Zimmerman helps her with that.

Clarisse had to learn at an early age what responsibility means: her mother left the family. Since then, the young woman has supported her father in raising her nine siblings. The family lives in a small house with two rooms in Kinshasa, the capital of the Democratic Republic Congo.

Life in the African country is hard, with few earning more than one dollar a day. And yet Clarisse dares to dream. Of a degree in pharmacology. Because she wants to use her profession help people, fight diseases. But even education is expensive in Congo.

For almost a year now, Clarisse has found a way to finance her studies and live her dream.

She sells bread for a bakery with German roots. The bakery in Kinshasa is part of the project "Centre Ya Bana" (in English "Center for Kids"). The center consists of an elementary school and a specially build bakery, through which Clarisse earns a regular income.

The goal of the project founders Rodrick Sampu and Simon Zimmermann was to build a school that could finance itself through the profits of its own bakery. A school in the Congo is usually left to its own devices financially. And Centre Ya Bana does not want to charge school fees.

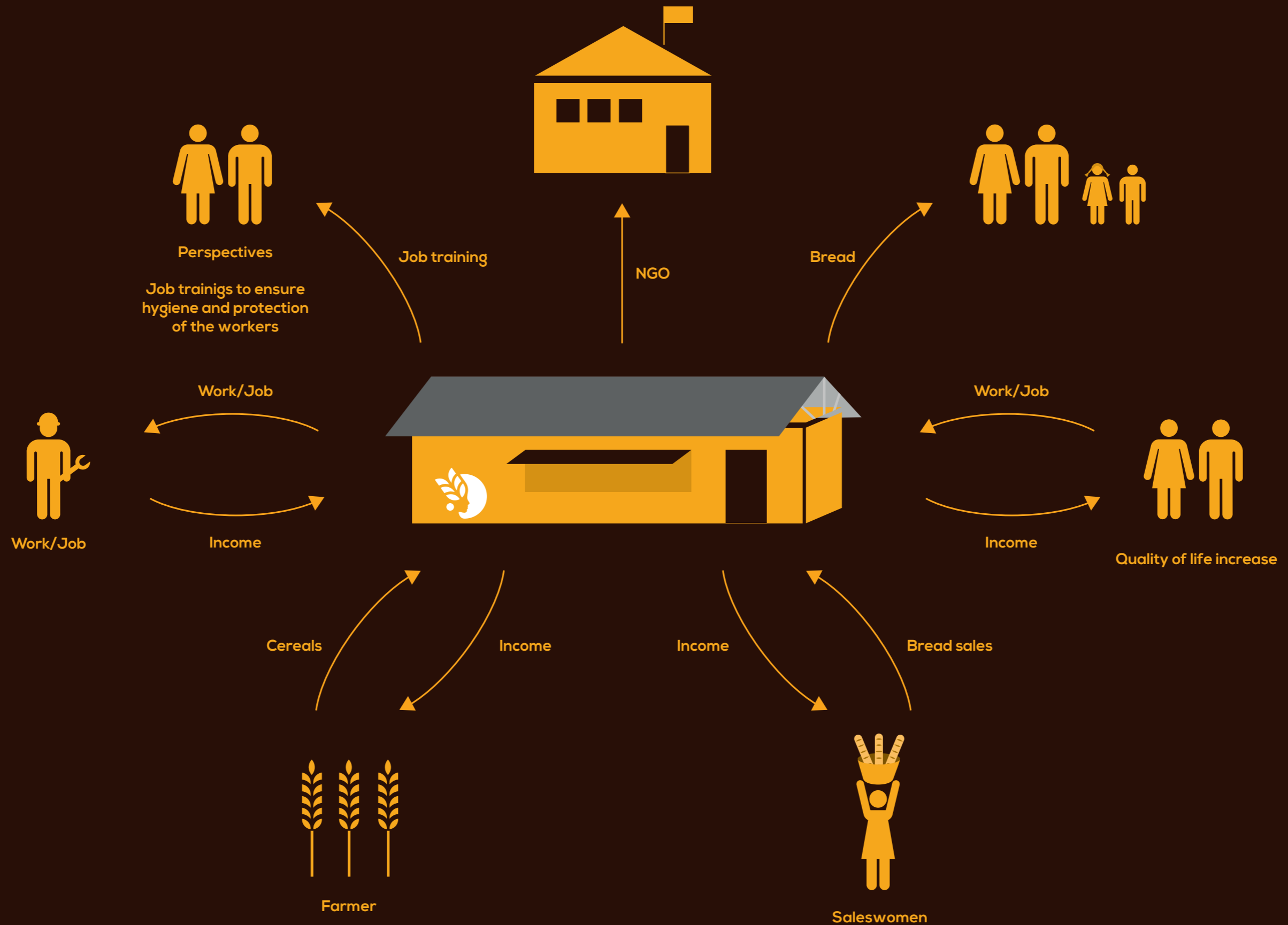
While the school is being built every day, the bakery is already very popular. In addition to Clarisse, almost 90 tradeswomen earn an income from the sale of bread and the bakery produces almost 3,000 loaves a day.

It is already clear that the young woman is well on the way to making her dream come true - and is a good role model for her siblings.



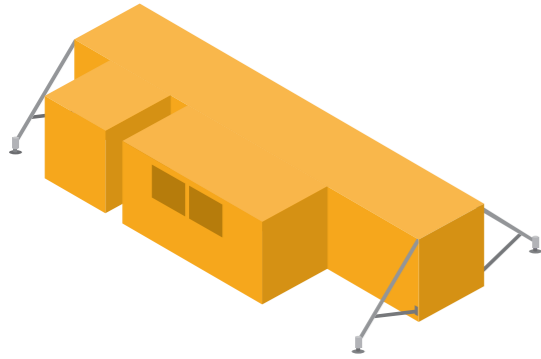


# REGIONAL VALUE CREATING





## OPTIONAL ADDITIONS



### SUPPORT STRUCTURE

For sites with particularly challenging weather such as above-average winds/storms, earthquakes, etc., the customer can order additional side braces to guarantee a stable position in all weather conditions. These can simply be bolted to the steel frame of the container.



### WATER STORAGE

- In order to offer a system, which can be set up everywhere self-sufficiently, a general system with a roof mounted water tank is offered
- The tank can hold up to 3,000 liters of water, enough for one week of operations

### CHARGING STATION (FOR CELLPHONES, ETC.)

### CHARGING POINT (FOR ELECTRIC VEHICLES)

## DELICIOUS

### DISCOVER, WHAT YOUR SOLARBAKERY CAN BAKE



### CEREAL AND GRAIN ROLLS

Using local ingredients, SOLARBAKERY offers healthy and nutritious variations of cereal and grain rolls.



### BAGUETTES

An absolute classic - very popular all over the world and especially in francophone Africa. And of course, also in the heart of the SOLARBAKERY.



### PASTRY

In the current version of the SOLARBAKERY container, numerous variants of pastries can already be produced - many more will be possible with the SOLARBAKERY patisserie!

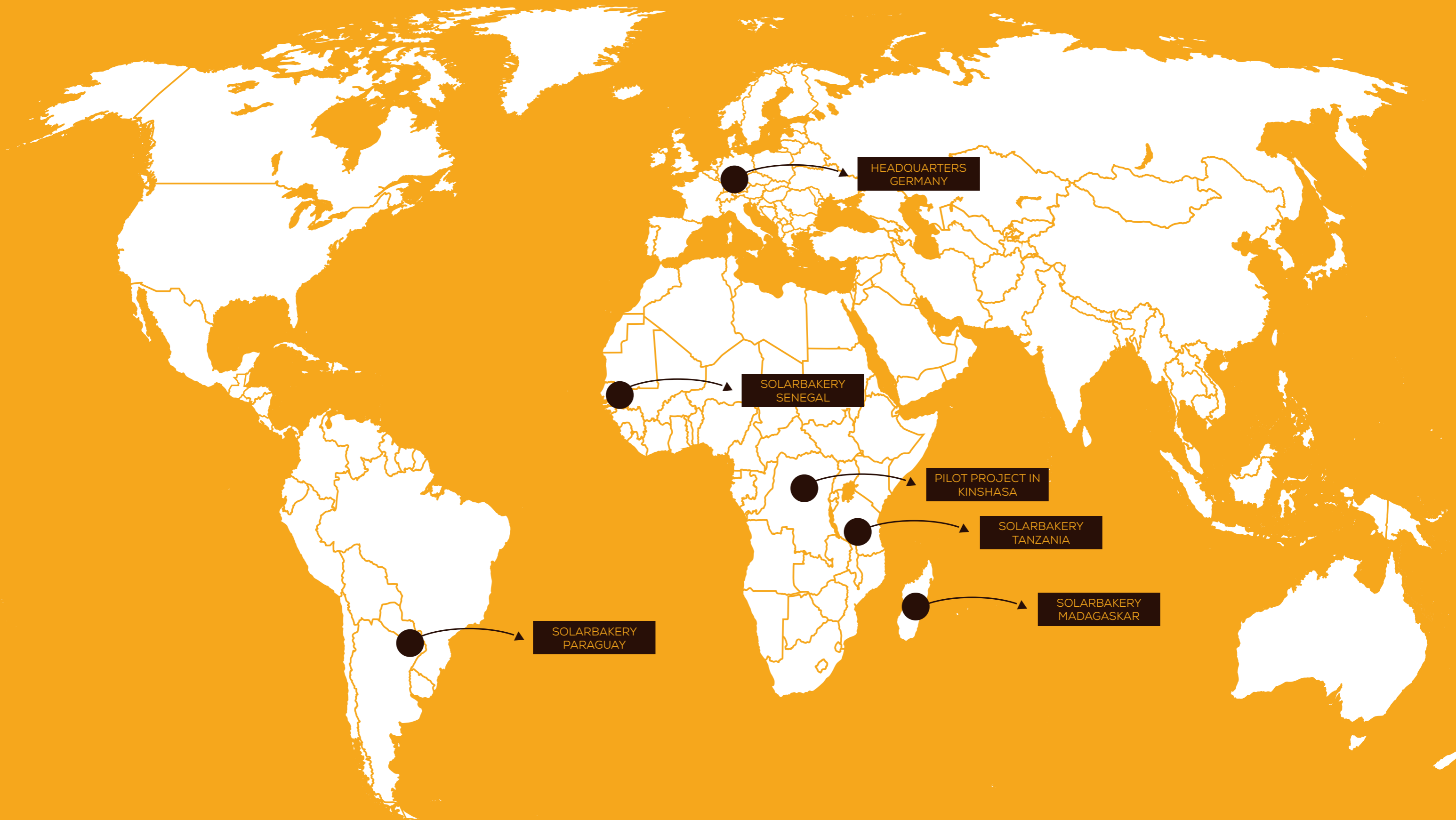


### OTHER BAKED GOODS

The range can be expanded almost at will.



# WHERE WE OPERATE



HEADQUARTERS  
GERMANY

SOLARBAKERY  
SENEGAL

PILOT PROJECT IN  
KINSHASA

SOLARBAKERY  
TANZANIA

SOLARBAKERY  
MADAGASKAR

SOLARBAKERY  
PARAGUAY



# HOW WE OPERATE

So that you can realize your goal of your own SOLARBAKERY, we support and advise you throughout the entire process.

For your success SOLARBAKERY accompanies you in 4 steps.



## CONSULTING AND ANALYZING

Analysis of the target area

Consulting & strategic planning

Preparation of your site



## PRODUCTION AND SHIPMENT

Production of the right SOLARBAKERY for your needs

Ready for use delivery to your desired location



## TRAINING & SUPPORT

We help you with the implementation

All the training and support you need to get your bakery up and running



## IMPACT & AFTER SALES

Perspectives you create make an impact

You also make a profit

We will continue to support you when you need it



# SOLARBAKERY

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