x-runner brings reliable, safe, and sustainable sanitation to low-income urban households that do not have a toilet.

We improve families' daily lives and create a cleaner, healthier habitat.
Lima is the 2nd driest capital in the world. A conventional water based sewerage system cannot reach all of its population. Malpractices such as using latrines, buckets, or defecating in the open result in polluted waters and lands; families homes and neighbourhoods become inhabitable.

Unsafe sanitation leads to the spreading of various diseases. Diarrhoea is the 2nd deadliest disease in the world. It kills more people than Malaria, HIV/Aids and TB combined.

2.5 billion people worldwide do not have access to safe sanitation.

1 billion people worldwide live in urban slums and lack access to reliable sanitation systems.

2 million of them live in Lima, Peru. They are x-runner’s current and future customers.

GLOBAL CRISIS

2 million

Malpractices

URBAN CHALLENGES

Unsafe sanitation

LOCAL NEEDS

Lima

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1 billion

people worldwide live in urban slums and lack access to reliable sanitation systems.
X-runner is a sustainable sanitation enterprise addressing the needs of Lima's poorest with a waterless sanitation system.

The enterprise operates in districts where there is no access to water or to the city's sewers. X-runner's service operates above ground and is therefore well controlled.

With its system, x-runner can keep fecal pathogens out of waters and grounds. This has a positive impact not only on its customers but on the entire neighbourhood.

X-runner understands that long-lasting impact and scale can only be achieved with beneficiaries being financially involved. Therefore, customers subscribe to the sanitation service and pay a monthly fee.
**HOW IT WORKS?**

When a family subscribes, the enterprise's technical team goes by their home and installs a waterless toilet. The feces, instead of being flushed away, are separated from the urine inside the toilet, then covered with a bit of sawdust, and finally collected in a compostable bag. This way the toilet prevents flies and bad odors.

Once a week the truck goes by the communities and picks up the bags filled with feces. The collected human waste is then transported to the treatment facility, where it undergoes a natural treatment and is processed into compost.

For the pick-up service customers pay a monthly subscription of 39 Soles or 12.5 US$.
Currently, x-runner has 180 household customers, reaching more than 800 people with sanitation services. Until 2016, it wants to expand its service to 550 households, while also increasing its treatment capacity and improving service processes.

X-runner’s customers are low-income families in urban and peri-urban Lima. Most of them are immigrants from different regions of Peru. The country uses a socio-economic population scale that categorizes according to incomes and living conditions. Levels range from A (highest) to E (lowest). 87% of customers belong to ‘D’ level and 13% to ‘E’ level. Monthly family incomes range between 490 US$ and 710 US$.

94% of customers used latrines before acquiring x-runner’s toilet. 6% of customers didn’t have any facility at all.
X-runner is Latin America’s 1st waterless, urban sanitation service for the private home.

The enterprise started its pilot in Lima in 2012 using a human-centred design process. Many of the key lessons from that initial phase have remained: Team members are very open minded and observant, they learned to never fall in love with an idea or process, but to test, experiment, and then to constantly improve and fine-tune.

X-runner considers the service and its many processes to be the strongest and most innovative component of the system: The service provides a solid, preliminary foundation, which allows the enterprise flexibility and to adjust to upcoming innovations in the sanitation sector. This way, the enterprise can scale and simultaneously continue optimising its technology and methods.
**INNOVATION EXAMPLE 1**
X-runner uses NFC microchips (tags) for service process monitoring: Small tags are attached to the toilet containers. At the weekly waste collection, service staff can scan the tags and feed customer data into smartphones. From the data, staff can assess in real-time whether there are any issues with the toilet, the payments, or the service.

**INNOVATION EXAMPLE 2**
Composting is a time intensive treatment method. X-runner uses Efficient Microorganisms (EMs) to accelerate this process. The enterprise mixes the EMs into the sawdust provided to the customers, which they use after defecation. This allows the treatment process to already ignite in the toilet at home - or in other words; treatment starts one week before the waste actually arrives at the treatment plant.

**INNOVATION EXAMPLE 3**
Payment schemes are tough for poor families: X-runner set up a system for customers to pay through bank agents at local kiosks (bodegas). This allows families to make payments in their area at their convenience, it inserts them into the banking system and thus, gives them access to additional services.
IMPACT TO DATE

ENVIROMENTAL
The dry toilet consumes an average of 84 litres per year, which is very low compared to the 9'450 litres of a pit latrine and with a minimum of 31'104 litres that a WC flushes down the drain. Furthermore, the least amount of water is used during the service operations.

SOCIAL
93% of customers think that the dry toilet has improved their quality of life. 86% of customers are satisfied with their dry toilet. 82% say that they plan to keep it for a long time.

HEALTH
4 months after using the x-runner toilet there is an average reduction of 12% of diarrheal episodes.

FINANCIAL
Currently, x-runner collects around 5.5 tons of feces in one month. According to external parasitological and microbiological analyses, fecal coliform concentrations in the compost meet Chilean and Austrian standards, meaning the compost is save for use.

GOVERNANCE
X-runner has become the first Peruvian company to be certified as a B Corporation, which means it meets rigorous standards of social and environmental performance, as well as accountability and transparency.
The x-runner system has various interchangeable components and can be adjusted and expanded to various urban settings. It can change i.e. its logistic plans according to community organization and customers’ daily routines or it can change its treatment according to different market needs, while the underlying principle of a dry waste collection system remains.

CUSTOMERS
X-runner will reach more than 500 customers by 2016. By the year 2019 x-runner will have crossed the 3000 household mark and reach around 14,000 people - a crucial number, at which the enterprise will achieve financial sustainability.

CUSTOMER HEALTH
X-runner needs to further increase diarrhoea reduction among its customers. Therefore, it will run more workshops and training on hygiene and also introduce additional products that shall increase the overall hygiene at home.

TEAM
X-runner expects to double its number of staff in the next 3 years, mainly hiring more sales personnel from within low-income communities and thereby, creating more jobs among the populations it serves.

ENVIRONMENT
At the end of 2015 x-runner expects to collect monthly 13 tons of feces and generate 6.5 tons of compost. By 2018 x-runner will collect around 54 tons of feces monthly, which could otherwise end up polluting waters and harming communities.
To date, x-runner has won MIT Technology Review Prize for Innovators under 35 in Peru, the NextBillionMind Prize, and was finalist in Kunan Prize Peru and in Unilever’s Sustainable Living Young Entrepreneurs Award. In 2015, CEO Medem made the Forbes 30 under 30 list in the category “Social Entrepreneurs”. It made B Corp’s top 500 "Best for the World List", and was named 1 of 100 SUSTAINIA solutions.

Since 2011 we collaborate with Eawag, the leading water and sanitation research institute. For the second time we are collaborating with Emzingo, an organization availing MBA students to social enterprises. In Lima we have been collaborating since our service launch with the local agrarian university Agraria, and since 2013 with the local accelerator program of NESsT.