



## TACKLING PLASTIC WASTE AND DEVELOPING ANTIRETROVIRAL FORMULATIONS

SA Rebuilders

South Africa



Dr Maryam Amra Jordaan

SA Rebuilders has already pioneered three innovations. These include a child-friendly antiretroviral formulation to tackle HIV infections, an artisan butter manufacturing plant which addresses food insecurity, and a plastic recycling plant that manufactures bricks for sustainable and durable construction in a country experiencing increasingly high levels of flooding.

SA Rebuilders is contributing towards numerous UN Sustainable Development Goals, including creating sustainable and inclusive employment. HIV antiretrovirals are contributing to the goal of ensuring healthy lives for all, while reducing waste plastic decreases the marine pollution caused by land-based activities.

Recognising that her home country faces a multitude of issues which require serial entrepreneurship, Maryam has created eight jobs at SA Rebuilders, while giving untrained people life-changing skills. The company's focus on nurturing entrepreneurship has driven its research into developing much-needed child-friendly ARVs in a market primarily focused on adult formulations.

While these could prove to be invaluable internationally, the recycled bricks will help to reduce construction costs, and address the housing crisis in a country where 2.3 million households are currently waiting for a home.





South Africa currently faces numerous challenges, from high unemployment and poor health to an energy crisis and problems with plastic waste. Dr Maryam Amra Jordaan has been tackling many of the country's most pressing socioeconomic issues with a series of standalone innovations, including antiretroviral (ARVs) drugs, and an ingenious building material which recycles waste plastics. These enterprises are capitalising on South Africa's historic engineering prowess, while creating much-needed jobs in key industries.

Maryam describes LIF as being invaluable: "It helped me to realistically approach milestones and goals. My year in LIF was an amazing experience, which taught me to focus on the market as well as the technology." The Academy supported SA Rebuilders in setting up a 3D printing studio, while another LIF innovator is collaborating on analysing recycled plastic bricks. Maryam also praises her "amazing" Academy mentor for providing invaluable guidance, giving her the confidence to

mentor her own interns at SA Rebuilders. With most of the company's products at either the prototype phase, or in preclinical trials, Maryam is now focusing on international opportunities. "There's a multitude of problems both nationally and internationally, and if you tackle a lot of the SDG goals, a great deal can be achieved." The LIF programme has given her confidence in areas as diverse as protecting pharmaceutical innovation, raising funding, and managing licensing: "I would say I've learned everything one needs to run a successful company."

The Royal Academy of Engineering's Leaders in Innovation Fellowships (LIF) programme supports talented entrepreneurs from around the globe to turn their engineering innovations into impactful, sustainable businesses.

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