



14Trees pioneers 3D printing technology in Africa for affordable housing and schools

- **First application of 3D printing technology at scale for schools in Africa, starting in Malawi**
- **Building homes at record speed with optimized material use and a reduced carbon footprint by 70%**
- **Addressing Malawi's 70-year schools backlog within just 10 years**

14Trees, a LafargeHolcim joint venture with CDC Group, the UK's publicly owned impact investor, is deploying 3D printing technology at scale to build affordable and low-carbon housing and schools in Africa, starting in Malawi. With its record speed of construction and optimised material use, this technology reduces the carbon footprint for building new homes by up to 70%. Pioneering this technology in schools for the first time, 14Trees aims to address the country's chronic infrastructure shortage while creating skilled local jobs.

Miljan Gutovic, Region Head Middle East Africa and LafargeHolcim Executive Committee member, said: "I am very excited about the work of our joint venture 14Trees, innovating in 3D printing technology to accelerate affordable and sustainable building, from homes to schools. This is a great example of our commitment to build for people and the planet. Starting in Malawi, we will deploy this technology across the broader region with projects already in the pipeline in Kenya and Zimbabwe."

Tenbite Ermias, Managing Director, Africa, at CDC said: "The rollout of 14Trees' world-class, cutting-edge technology is going to have a tremendous developmental impact on Malawi and the wider region. It is a wonderful example of how we are investing in businesses that can support the UN's Sustainable Development Goals."

Using proprietary LafargeHolcim ink, this innovative 3D printing process will significantly reduce the time and cost of building housing and schools in Malawi. UNICEF estimates a shortage of 36,000 classrooms in Malawi which would take 70 years to build using conventional methods. According to 14Trees, this infrastructure gap could be bridged in just ten years using 3D printing. Partnering with a range of NGOs, 14Trees is committed to solving this chronic shortage at scale, starting with families and communities most in need.

The project in Malawi relied on local 14Trees teams trained by LafargeHolcim and COBOD, the 3D printing specialists. The teams included 3D machine operators, architects, civil and structural engineers and materials specialists. The project also involved nearly forty people in the preparation of the 3D ink and in the construction with building trades such as carpenters, roofers and painters.

The walls of 14Trees' first prototype house were built in Lilongwe in just 12 hours, compared to almost 4 days using conventional methods. The walls of its first school, built in Salima, were printed in just 18 hours, as opposed to several days.

About LafargeHolcim

As the world's global leader in building solutions, LafargeHolcim is reinventing how the world builds to make it greener and smarter for all. On its way to becoming a net zero company, LafargeHolcim offers global solutions such as ECOPact, enabling carbon-neutral construction. With its circular business model, the company is a global leader in recycling waste as a source of energy and raw materials through products like Susteno, its leading circular cement. Innovation and digitalization are at the core of the company's strategy, with more than half of its R&D projects dedicated to greener solutions. LafargeHolcim's 70,000 employees are committed to improving quality of life across more than 70 markets through its four business segments: Cement, Ready-Mix Concrete, Aggregates and Solutions & Products.

More information is available on www.lafargeholcim.com

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About CDC:

CDC Group is the world's first impact investor with over 70 years of experience of successfully supporting the sustainable, long-term growth of businesses in Africa and South Asia. CDC is a UK champion of the UN's Sustainable Development Goals – the global blueprint to achieve a better and more sustainable future for us all. The company has investments in over 1,200 businesses in emerging economies with total net assets of £5.8bn and a portfolio of £4.3bn. This year CDC will invest over \$1.5bn in companies in Africa and Asia with a focus on fighting climate change, empowering women and creating new jobs and opportunities for millions of people. CDC is funded by the UK government and all proceeds from its investments are reinvested to improve the lives of millions of people in Africa and South Asia. CDC's expertise makes it the perfect partner for private investors looking to devote capital to making a measurable environmental and social impact in countries most in need of investment. CDC provides flexible capital in all its forms, including equity, debt, mezzanine and guarantees, to meet businesses' needs. It can invest across all sectors, but prioritises those that help further development, such as infrastructure, financial institutions, manufacturing, and constructions.

Find out more at www.cdcgroup.com

About 14Trees

14Trees is a joint venture between LafargeHolcim and CDC Group which is focused on building affordable houses, schools and social infrastructures in Africa. It was set up with the aim to accelerate the production and commercialization of environmentally-friendly, affordable construction solutions in Africa. 14Trees benefits from the expertise of LafargeHolcim's R&D centre, the world's leading building materials research centre, to accelerate the use of environmentally friendly solutions such as LafargeHolcim earth brick Durabrick® and 3D printing.

For more information go to <https://www.14trees.com/>