Urban Agenda Platform

The global platform for sharing progress, action and knowledge on the implementation of the New Urban Agenda to achieve sustainable urban development.

Tvasta Manufacturing Solutions Pvt. Ltd.

Region	**Asia and the Pacific**
Award Scheme	**Habitat for Humanity**
Start Year	**2019**
Sustainable Development Goals	**Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable**

Summary

India has a massive need for shelter: the Government of India intends to build 30 million homes over the next decade to house the low-income population. As of 2019,however, only 800,000 of these housing units have been constructed. House construction takes time and significant labor resources with no assurance on the quality. While prefabricated technologies are seen as a solution to address these issues, adoption has been low in many markets.

Background and Objective

Tvasta entered the 3D manufacturing space in 2014 and has developed printers for use in healthcare and engineering. In 2019, the company began 3D printing toilet structures. Tvasta was founded by four graduates from IIT-Madras, a premier engineering college in India. Tvasta partners with many government agencies, large builders such as Larsen & Toubro as well as various research institutions. Tvasta has won many awards including the Best Startup of the year (Technology Development Board) and the Vishwakarma Award for the Most Promising Startup by the Construction Industry Development Council and is a ShelterTech Accelerator India alumnus

Actions and Implementation

Tvasta aims to bring efficiency, discipline and the cost-savings of automation to the construction industry in India by automating 80% of building processes utilizing 3D printing. Tvasta has designed, developed and manufactured large-scale 3D Printers to build houses and toilet sheds.

Innovative Initiative

Tvasta plans to use its technology to provide affordable housing and toilets to address thehousing gap in the low income segment. In India, it aims to bring the cost down to $10 per square foot for a completely finished house and build a 320 square foot house in a timeframe of 3 days. Tvasta printed India's first 3D printed structure, a toilet, and is currently engaged in working with multiple corporations and research institutions to enable printing of the first low cost 3D printed house in India.