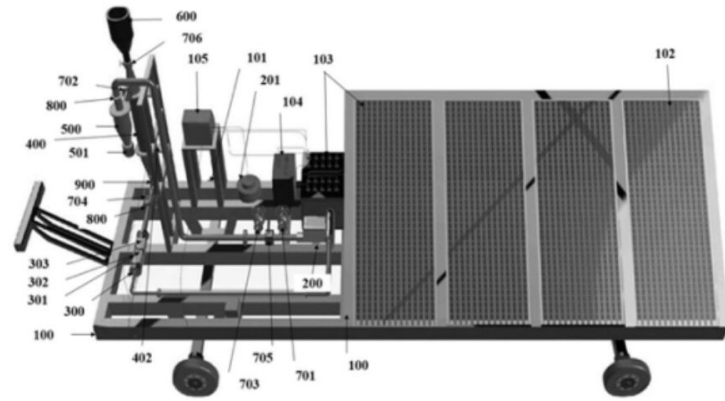


PENDING**(IN202411073463)**

A solar photovoltaic (PV) integrated fluidized bed dryer for controlled grain drying



NEED

Every year, 30–40% of post-harvest grains spoil due to poor drying—causing \$3B in losses. The core issue lies in uneven moisture removal and lack of precision control. What if grains could dry faster, more evenly—without losing quality?

TECHNOLOGY OVERVIEW

A fluidized bed dryer system that integrates multi-valve control, solar energy, real-time sensors, and adjustable airflow to deliver consistent and efficient drying of grains. It ensures uniform drying by monitoring air temperature, humidity, and grain moisture at both inlet and outlet.

TECHNOLOGY KEY FEATURES

Solar-powered dryer with air preheaters, cyclone separator, moisture/humidity sensors, and six ball valves for fine control. Built-in mobility with optional solar PV.

[Read more here](#)

MARKET ANALYSIS

India's grain dryer market expected to grow at 5.8% CAGR till 2033. Global grain drying equipment market projected to reach \$1.9B by 2033 (Allied Market Research, IMARC Group). Drivers: demand for food security, climate-smart drying.

Target Industries

Agriculture Processing Units and Storage Facilities and/or Post-harvest Management Service Providers and/or Agri-tech developers focusing on energy-efficient and mobile drying solutions.

AT A GLANCE

- SDG 2 (Zero Hunger), SDG 7 (Affordable and Clean Energy), SDG 12 (Responsible Consumption and Production)

Technology is available for licensing/ co-development.

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