



Godrej & Boyce Mfg. Co. Ltd.

## Godrej & Boyce partners with Ordnance Factory Chandrapur to develop automated Pinaka rocket assembly line

- Atma-Nirbhar Bharat: Godrej Tooling conceptualized and developed new Pinaka rocket assembly line to enhance production with high quality and advanced safety features

**August, 2020:** Godrej & Boyce, the flagship company of the Godrej group announced that its business unit Godrej Tooling had partnered with the Ordnance Factory Chandrapur, Maharashtra to conceptualise and develop an indigenous Automated Assembly line for production of Pinaka Rockets, that was inaugurated by the Hon'ble defence Minister Rajnath Singh and dedicated to the nation on August 10, 2020. The new automated assembly line has not only enhanced productivity but also comes equipped with advanced safety features to handle rockets filled with explosives and live igniter.

Godrej & Boyce's journey to design and develop the new automated assembly line began in 2016 as Ordnance Factories were facing the challenge of scaling up productivity substantially to meet the growing demands of our defence forces. Godrej Tooling completed the entire project from designing a solution to installation and commissioning in a year. With this automated line, the Ordnance Factory Chandrapur has been able to quadruple its production capacity for Pinaka rockets.

The key advantages for OF Chandrapur include deskilling of operations, real-time quality monitoring of production, automated safety features, 4X increase in productivity in addition to greater availability for the defence forces.

*"As India's commitment to develop self-reliance in production and development across strategic sectors gathers speed, our business units are partnering with key defence organisations like Ordnance Factories to engineer and innovate new automated solutions that will increase our defence production and fulfil the vision of Atma Nirbhar Bharat,"* said Jamshyd N Godrej, Chairman and Managing Director, Godrej & Boyce.

*"The Pinaka assembly line was selected in view of the increased demand in production of Pinaka rockets and the headroom available for process automation. There was also a need to reduce human intervention in the process to ensure high productivity and consistent quality. Committed teams from OF and Godrej Tooling worked in unison to develop and integrate the new system in just 12 months",* said D K Sharma, EVP & Business Head, Godrej Tooling.

The Ordnance Factory Board had invited Godrej Tooling to undertake a study to determine the areas which could be automated at their works in Ambajhari, Chandrapur, and Bhusawal with specific proposals in consultation with various OFs for meeting their priority requirements. In response, the Godrej Tooling design team carried out extensive studies of current manufacturing processes which included in-depth interactions with the factory personnel to arrive at a list of operations that could be automated. This list included a project of automating the Pinaka rocket assembly line at Chandrapur.

To demonstrate the concept of automation as envisaged by Godrej Tooling, a full stage mock-up station was built. Extensive trials were carried out to prove that some of the complicated assemblies could be



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automated using Godrej Tooling solutions. It was only after witnessing successful trials that the OF team gave approval for the automated system.

Challenges to ensure safety and scale were paramount as the line handled rockets weighing 300 kgs filled with explosives and a live igniter. Hence, all electrical equipment had to be flame-proof and the handling had to be with minimum or no impact. Many components needed to be joined with each other where access was difficult, and the visibility was limited. Godrej Tooling designers and engineers created a novel solution to overcome these challenges as well as integrate the line with OF supplied equipment.

### **About Godrej & Boyce Mfg. Co.**

Godrej & Boyce, a Godrej Group Company, operates across 14 diverse businesses. Founded in 1897, the company started with the manufacture of high-quality locks. It has since diversified into Consumer Goods, Office and Industrial Products & Services, Infrastructure & Real Estate. Headquartered in Mumbai, Godrej & Boyce specializes in and is a market leader in Appliances, Furniture & Interiors, Security Solutions, Locking Solutions, AV solutions, Vending, Material Handling, Industrial Logistics, Aerospace, Nuclear Power, Defense, Tooling solutions for Auto & Railway sector, Process Equipment, Power Infrastructure, Real Estate and Green Building Consulting. Godrej is one of India's most trusted brands serving over 1.1bn customers worldwide, every day.