



# Vande Bharat Trains

## Why in News?

In the [Union Budget for 2022-2023](#), the Finance Minister has proposed the **development and manufacture of 400 new Vande Bharat trains** in the next three years.

- The 400 trains carry a potential investment of **Rs 50,000 crore** while the **current Vande Bharats** are being made at **Rs 106 crore per train set** of 16 cars, at 2018 pricing.
- It comes **in addition to the current plan** — to be able to run 75 Vande Bharats across India by Independence Day in 2023.

## What are Vande Bharat Trains?

- It is an **indigenously designed and manufactured semi high speed**, self-propelled train that is touted as the **next major leap for the Indian Railways** in terms of speed and passenger convenience since the introduction of Rajdhani trains.
- The first Vande Bharat was manufactured by the **Integral Coach Factory (ICF)**, Chennai, as part of the [‘Make in India’ programme](#), at a cost of about Rs. 100 crore.
- The Vande Bharat was **India’s first attempt at adaptation of the train set technology** compared with conventional systems of passenger coaches hauled by separate locomotives.
  - The **train set configuration, though complex**, is faster, easier to maintain, consumes less energy, and has greater flexibility in train operation.
- Currently, **two Vande Bharat Expresses are operational** —one between New Delhi and Varanasi and the other from New Delhi to Katra.
- The **400 new trains will have “better efficiency”** and railways are looking at making several of these trainsets with aluminium instead of steel.
  - An aluminium body will **make each trainset around 40-80 tonnes lighter** than a current Vande Bharat and this will mean **lower consumption of energy** as well as **better speed potential**.

## What are the Features of the Vande Bharat Trains?

- These trains, dubbed as **Train 18** during the development phase, operate without a locomotive and are **based on a propulsion system** called **distributed traction power technology**, by which each car of the train set is powered.
- Its coaches **incorporate passenger amenities** including on-board WiFi entertainment, GPS-based passenger information system, CCTVs, automatic doors in all coaches, rotating chairs and bio-vacuum type toilets like in aircraft.
- It can achieve a **maximum speed of 160 kmph** due to faster acceleration and deceleration, reducing journey time by 25% to 45%.
- It also has an **intelligent braking system** with power regeneration for better energy efficiency thereby making it cost, energy and environment efficient.

## What is the Significance?

- The sheer manufacturing of 400 of these trainset equipment in three years will be additional **employment generation to the tune of 10,000-15,000.**
- The pumping in around Rs 50,000 crore into the country's rolling stock industry, will **give a big boost in the sectors of component manufacturing, supplies etc.**
- It will **also improve railway finances and operational efficiency.**

## Way Forward

- Indian railways is **moving towards a new era of travel experience** with upgraded next-generation trains. At a time when low cost airlines and smooth road networks are offering stiff competition, the **new trains can help railways retain traffic and even grow it.**
- **Timely execution of the ambitious project and keeping in mind the demand for various classes of travel** will go a long way in ensuring the success of the Vande Bharat project.

[Source: TH](#)

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