

## AIRAWAT [UPSC Notes]

Recently, the [artificial intelligence](#) supercomputer "AIRAWAT" at C-DAC in Pune, India was ranked 75th in the Top 500 Global Supercomputing. This recognition places India among the world's leading AI supercomputing nations. This article goes into great detail about India's 'AIRAWAT' AI supercomputer. This is an important topic for the [IAS exam](#) Science and Technology segment.

### AIRAWAT:

- It is part of the National Artificial Intelligence Program launched by the Government of India, in line with Prime Minister Narendra Modi's vision of AI for All.
- The Ministry of Electronics and Information Technology plans to upgrade AIRAWAT's computing power to 1,000 AI Petaflops to meet the current AI computing requirements.

### What are the benefits?

- AIRAWAT's deployment will enable academia, research labs, research communities, industry and startups to develop indigenous AI-enabled products and solutions specifically designed to address India's challenges.

### What is a Supercomputer?

- A [supercomputer](#) is an extremely powerful, high-performance computer that can perform complex calculations and process large amounts of data at incredibly high speeds. It is used for tasks that require enormous computing power.
- The processing speed of a supercomputer is measured in units of PETAFLUPS (the power of ten to 15 floating-point transactions per second).
- FLOPS (floating point operations per second) are often used to measure the efficiency of a computer's processor.
- China has the largest number of supercomputers in the world, followed by the United States, Japan, France, Germany, the Netherlands, Ireland and the United Kingdom.

### Supercomputers in India

- India's first supercomputer was PARAM 8000. It was followed by PARAM Shivay, PARAM Shakti, PARAM Brahma, PARAM Yukti and PARAM Sanganak, which were installed in various institutions in India.
- In 2020, the HPC-AI supercomputer PARAM Siddhi ranked 62nd in the world's 500 most powerful supercomputer systems.

## National Supercomputing Mission

- The [National Supercomputing Mission](#) was launched in 2015 to improve research capacity and capabilities in India.
- It aims to connect different research institutes using the National Knowledge Network (NKN) to form a supercomputer network.
- The National Supercomputing Mission is jointly managed by the Ministry of Science and Technology (DST) and the Ministry of Electronics and Information Technology (MeitY).
- The Development Center for Advanced Computing (C-DAC), Pune and the Indian Institute of Science (IISc), Bengaluru are responsible for implementing the National Supercomputing Mission.
- The mission is planned in three phases: Phase I focuses on assembling the supercomputers, Phase II plans to produce certain components in the country, and Phase III involves designing the supercomputer in India.