India set to triple speed of its fastest supercomputers

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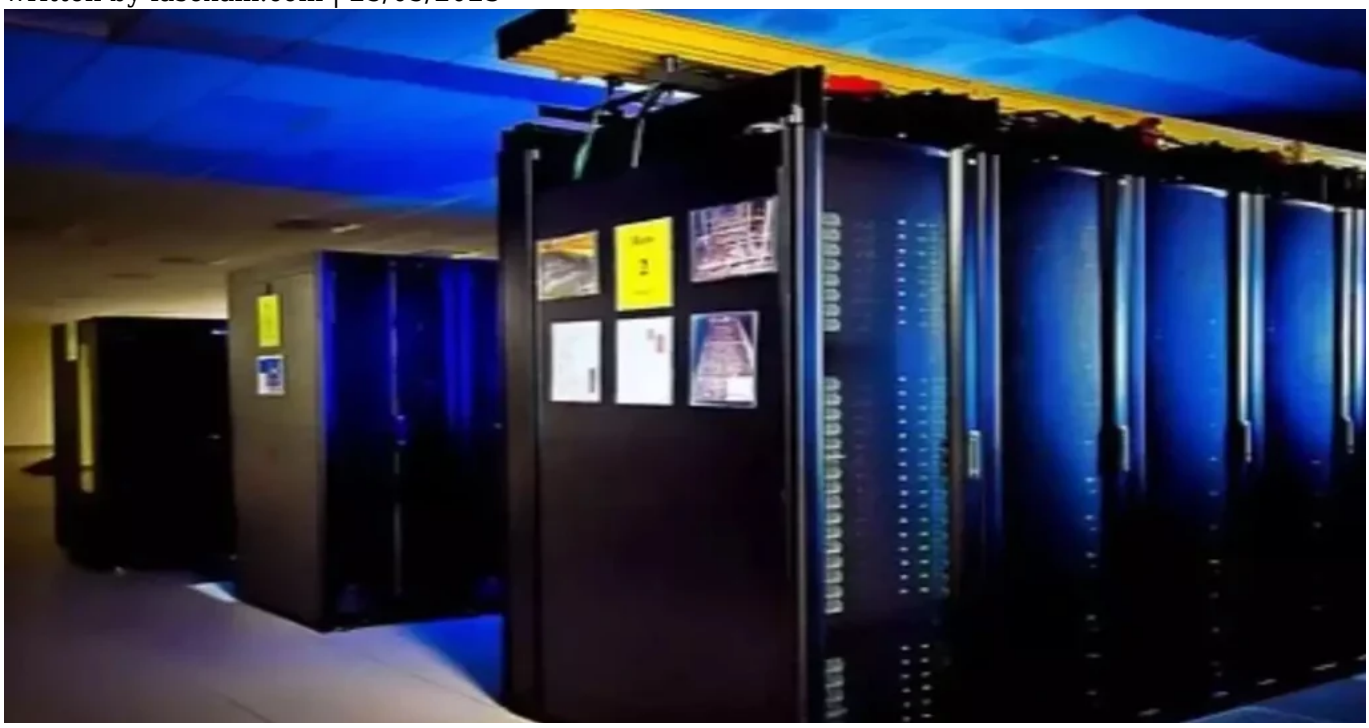

Context– India is set to scale up its supercomputing prowess and install an **18 petaflop** system over the course of time this year.

Key highlights:

- The new systems shall have a high processing power to such a degree that shall ease complex mathematical calculations required for accurate weather forecasting.
- The **Ministry of Earth Sciences (MoES)** shall spend around ₹900 crore for the new systems of supercomputers.
- The new supercomputers yet to be named are imported from French corporation,ATOS.

About the speed of supercomputers

- The **Flops or floating point operations per second** are the indicator of the processing speed of computers and a **petaflop refers to a 1000 trillion flops.**
- The high speed processing power shall help in easing complex mathematical calculations and in accurate forecasting how weather shall be for the next few days all the way upto two or three months ahead.
- Currently, the **Frontier -Cray system** at the Oak Ridge National Laboratory ,United states is the world's fastest computer with a speed of one exa-flop i.e, 1000 petaflops.The top such other systems are ranged from a speed of 400-600 petaflops.

India's supercomputers

- Currently,India’s most powerful civilian supercomputers are **Pratyush and Mihir** with a combined capacity of 6.8 pet flops that are housed at the Indian Institute of Tropical Meteorology ,Pune and at the National Centre for Medium Range Weather Forecasting(NCMRWF) ,Noida respectively.
- Both these organizations affiliated to the Ministry of Earth Sciences(MoES) were made operational in 2018 at a cost of ₹438 crore.
- India had signed a deal in December 2018 with France to procure high performance supercomputers worth ₹ 4500 crore by 2025.
- The currently installed supercomputers widely engaged in weather forecasting allow to map weather and climate changes and upgradations are going on developing systems to provide accurate data on rapidly evolving weather systems.