

# B'lore to Get India's Fastest Supercomputer Soon

by Anantha Krishnan M

**Bangalore:** India's fastest supercomputer will soon be housed in Bangalore.

Sources with the Council of Scientific and Industrial Research and CSIR Centre for Mathematical Modelling and Computer Simulation (CSIR C-MMACS) told *Express*, on the eve of National Science Day, that the yet-to-be-named high-performance computing system will be used for genome informatics, geo-science informatics (earth, ocean and atmosphere) and engineering sciences (aerodynamics of planes, development of

smart materials and computer-aided drug design).

The supercomputer is expected to deliver a sustained performance in excess of 250 teraflops (T-Flops).

"The system would be capable of performing 250 x 10<sup>12</sup> Floating Point Operations (FLOPS) per second — more than 10,000 times faster than a normal computer with a dual core processor. The problems generally associated with advanced scientific research would now get a boost with the arrival of the supercomputer," said Prof P Seshu, Head, C-MMACS.

Supercomputers in scientific research can be utilised

for modelling earthquakes, ocean currents, quantum chemistry and Astrophysics. In the 12th five-year plan (2012-'17), the Central Government has decided to allot ₹6,000 crore to propel India into the elite supercomputing club.

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"CSIR-C-MMACS presently has 24 T-Flops system, which is listed among the top in the country. Over the next few years, CSIR plans to upgrade their supercomputing

capacity to 10 petaflops (10 x 10<sup>15</sup>)," said R P Thangavelu, coordinator, HPC Group, C-MMACS. A data centre is being planned at the C-MMACS facility in Belur, near the old Bangalore airport.

A visualisation hyperwall is also being established to facilitate data intensive scientific research.

"Present high-fidelity computer simulations as well as the vast array of sensors spew out huge data (terabytes to petabytes). Thus, efficient data analytics and visualisation tools immensely aid the researcher to infer knowledge from data," says Prof Seshu.

Prof Samir K Brahmachari, director general of CSIR, explained to *Express* that such a facility would play a crucial role in empowering data intensive scientific discovery in the fourth paradigm of science.

"Today, all 40 CSIR labs in India are interconnected using the National Knowledge Network, which enables all scientists to access the supercomputing facility remotely. The new system would enhance the capabilities in areas such as genome analysis, weather modelling, computational fluid dynamics and the like," Prof Brahmachari said. **MORE: CITY EXPRESS, P1**