'PCs will be smaller, faster, smarter, cheaper'

Dramatic changes in the next ten years, says Carnegie Mellon professor Raj Reddy

Seema Singh

BANGALORE: Prof Raj Reddy, dean of Carnegie Mellon University, envisions "dramatic" changes in PCs over the next four years. The computing power of entry-level PCs is expected to go up from 500 million operations to 2 billion operations per second and memory from 100 megabytes to 500 megabytes, while cost would go down from Rs 60,000 to Rs 20,000, he said.

Speaking on 'Trends in information technology and implications for developing economies' in a live satellite telecast from Pittsburgh, he said: "It is reasonable to assume that the next 50 years will be even more dramatic than the last 100 years."

Enumerating the factors for the exponential growth, he said the size of the features on a chip had gone from 10 microns to 0.25 micron over the last 25 years. At the same time, the size of the chips had gone from 0.5 sq cm to 2 sq cm.

"We can certainly expect to reach smaller feature sizes and larger die sizes over the next 20 years. As a re-sult, the number of components per chip is expected to exceed 100 billion by 2020," Prof Reddy added.

On the "endless options" of the digital medium, Prof Reddy spoke about the Universal Library System being developed in the US. "Using a universal information resource, you can read a digest of a book, watch the highlights of a cricket game or see shortened version of a movie like 'Gone With the Wind' in your local language."

Urging the Indian community and government to participate the global movement for creation of the Universal Digital Library, he said: "In addition to Sankhya Vahini, we need a national initiative to create digital libraries of Indian literature and creative works.

To bring alive the concept for the audience, there was demonstration of the library which can be accessed at: www.ul.cs.cmu.edu.

"Telemedicine is being explored for sophisticated surgery... in India, increased bandwidth and computational capabilities could be used by an expert doctor to perform remote medical consultation, diagnosis and dispensation of drugs through the mediation of a local health worker," he said.

Stressing the necessity of communication in multi-lingual society, he said: "Using a translating telephone, a form in Hindi from Delhi could be filled by a local farmer in Karnataka and translated back into Hindi for official use."

"A national Sankhya Vahini, connected to a global Next Generation Internet, will eliminate barriers to communication and commerce and promote global trading by and with Indian entrepreneurs," Prof Reddy explained.

Prof M.G.K. Menon, vice-chairman, National IT Task Force, lighting the lamp to inaugurate the technical seminars on the Global Village. Also seen are (from left) N. Vishwanathan, principal secretary (commerce & industry), government of Karnataka, Y.L. Arora, chairman, Wisitex Foundation, Sanjoy Das Gupta, secretary, Information Technology, government of Karnataka, and Prof R. Narasimha, chairman, steering committee.

After a presentation — full of awe-inspiring facts and figures — Prof. Reddy concluded with an emotionally charged statement: "As we approach the 21st century, we have the opportunity to transform our society from a nation suffering from malnutrition and poor hygiene to a nation with universal affordable healthcare, from a nation of clerks pushing papers to a nation of productive problem-solvers and entrepreneurs who create jobs."

State aims for 20% jump in exports

Outlining the "IT vision" of Karnataka, N. Vishwanathan, principal secretary (industry and commerce), said: "Karnataka's vision is also the vision of the government of India. The immediate objective of the state is to increase its contribution to national software exports from 30 per cent to 50 per cent in two years including the achievement of a target of Rs 10,000 crore by 2002."

Pointing out the steps taken in the realm of human resource (HR) development, IT being a HR-driven industry, Mr Vishwanathan said for the first time in the country the entire curricula in engineering colleges in the state had been standardised and upgraded.

"Over 30,000 engineering graduates every year will now be employable in some sector of the IT industry."

The government had, in consultation with the industry, developed a curriculum which would provide a six-month training to raw engineering graduates at the Indian Institute of Information Technology (IIIT), he said.

"The course will commence from January 1999. We have already acquired 100 workstations and more will be bought soon."

Referring to Karnataka being the first state to announce an industrial promotion policy for IT, he said the government was formulating plans to check the quality of products.

"We have also initiated discussions to rationalise computer education in schools and colleges."

Speaking on the theme of the seminar, Steering Committee Chairman Roddam Narasimha warned against the pitfalls of IT.

"If they are not considered seriously, the world would be divided into IT haves and have-nots."

Urging the Indian community and government to participate the global movement for creation of the Universal Digital Library, he said, "In addition to Sankhya Vahini, we need a national initiative to create digital libraries of Indian leterature and creative works."

To bring alive the concept, there was a demonstration of the library which can be accessed at: www.ul.cs.cmu.edu.