

CAD Machines

CAD machines by NEC started with the design of a high-performance wave filter assigned to Hitoshi Watanabe in 1953, just after joining the company. For the purpose of accurate design, he figured out a new circuit network and design theory, and for the actual design he made an enormous number of numerical calculations. In the course of these processes, he conceived the basic concepts of a computer and started research and development by himself, eventually completed it and delivering it to Tohoku University as SENAC-1. For this achievement, he became the first Japanese to win the IEEE Kirchhoff award.

And then, in the 1980s, Nobuhiko Koike, et al., developed HAL, specialized for hardware logic simulation. HAL was manufactured over three generations. The third-generation HAL operated not on a logic circuit level but as a function level simulation, thereby contributing to the development of the NEC supercomputer.

In addition, around 1985, the need for speeding up circuit simulations was raised, and Cenju, a parallel computer for circuit simulation was developed by Toshiyuki Nakata, et al.

This machine was made as a general-purpose machine and from Cenju-3, it became commercially available.