

IBM Research announces computer chip innovation

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IBM Research announced a major engineering breakthrough that could accelerate carbon nanotubes replacing silicon transistors to power future computing technologies.

IBM scientists demonstrated a new way to shrink transistor contacts without reducing performance of carbon nanotube devices, opening a pathway to dramatically faster, smaller and more powerful computer chips beyond the capabilities of traditional semiconductors. The results will be reported in the October 2 issue of Science. IBM said its breakthrough overcomes a major hurdle that silicon and any semiconductor transistor technologies face when scaling down.

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Carbon nanotube chips may greatly improve the capabilities of high performance computers, enabling Big Data to be analysed faster, increasing the power and battery life of mobile devices and the Internet of Things, and allowing cloud data centres to deliver services more efficiently and economically.

IBM has previously shown that carbon nanotube transistors can operate as excellent switches at channel dimensions of less than ten nanometers.