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North Pinellas

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Pasco County

South Pinellas

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State Tampa Bay

TV Times

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Weekly sections Brandon Times

North of Tampa

Letters Movies

Times

Hernando County

Columnists

Business

Text-only

Arts &



Health

## Robotic legs are a stride in melding man and machine

**By Associated Press** Published March 11, 2004

BERKELEY, Calif. - Move over Bionic Man and make room for BLEEX - the Berkeley Lower Extremities Exoskeleton, with strap-on robotic legs designed to turn an ordinary human into a super strider.

The apparatus is ultimately intended to help people such as soldiers or firefighters carry heavy loads for long distances.

"The design of this exoskeleton really benefits from human intellect and the strength of the machine," says Homayoon Kazerooni, who directs the Robotics and Human Engineering Laboratory at the University of California-Berkeley.

The exoskeleton consists of a pair of mechanical metal leg braces that include a power unit and a backpack-like frame. The braces are attached to a modified pair of Army boots and are connected to the user's legs. More than 40 sensors and hydraulic mechanisms function like a human nervous system, constantly calculating how to distribute the weight and create a minimal load for the wearer.

Testers have walked around in the 100-pound exoskeleton plus a 70-pound backpack and felt as if they were carrying just 5 pounds, Kazerooni said.

Video of the BLEEX in action can be viewed at www.me.berkeley.edu/hel/bleex. htm

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Election 2004



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