SUPERCONDUCTIVITY -- U.S. companies are making major progress in the global research effort to develop superconductive materials. Superconductivity enables some materials to carry electricity at temperatures well above absolute zero with virtually no loss of current. At top, Richard Guarnieri, a researcher with IBM Corporation in Yorktown Heights, New York, examines a ceramic computer chip carrier coated with a high-temperature superconductive film. The film is said to allow the chip to carry 100 times more electrical current than previously believed possible. The increased conductivity is expected to lead to applications in circuits and computer-chip interconnections, electronic devices, power transmission lines, electric motors and electromagnets. At bottom, a cube of magnetic material hovers mysteriously above a new superconducting material developed at AT&T Bell Laboratories in Short Hills, New Jersey. The superconducting disk, bathed in liquid nitrogen to keep it cold, levitates the pellet by repelling it's magnetic field. This property may someday allow levitated trains to be built.

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