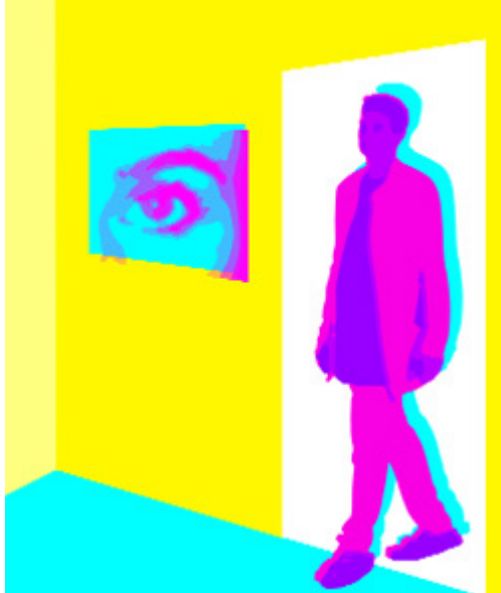


Time Europe Magazine, June 3, 2002

## Tech Watch

A world of innovation



DANIEL NORMAN/EASTWING FOR TIME

### ARTIFICIAL INTELLIGENCE

#### A Room with a Mind of Its Own

Machines with sinister minds of their own have been standard fare in popular sci-fi chillers like *2001: A Space Odyssey* and Stephen King's bestseller *Christine*. But the fiction behind these devices is rapidly becoming fact, and Ada — a room-sized artificial intelligence system on show at the 2002 Swiss National Exhibition in Neuchâtel until Oct. 20 — is living proof. Developed at the Institute for Neuroinformatics at the Swiss Federal Institute of Technology in Zurich, Ada is a mirror-clad room outfitted with its own electronic eyes and ears that is capable of interacting and communicating with visitors. A matrix of ceiling cameras monitors guests as they move about inside the room, while directional

microphones pick up sounds ranging from whispers to shouts. Even the floor is equipped with pressure sensors that can track a person's progress through the room. Should Ada want to communicate with visitors, it can do so through complex light and sound projections. If it's feeling talkative, for example, Ada can generate music that corresponds to its state of mind: a tinkling sound, for instance, might indicate amusement. Alternatively, the machine can express itself via stunning light shows that may suggest confusion or disappointment through different hues and patterns. Or, if Ada wants to direct visitors' attention to something in particular, it can illuminate colored lamps in the floor that outline the route they should take to find the desired object. Ada, named after 19th century British programming pioneer Ada Lovelace, performs all these feats thanks to neural network technology, layers of computer circuits that work in ways analogous to the human brain. If its intelligent space architecture proves a success, Ada may help pave the way for the acceptance and development of commercially constructed "smart" rooms and buildings that can dynamically adapt themselves to the needs of their inhabitants.