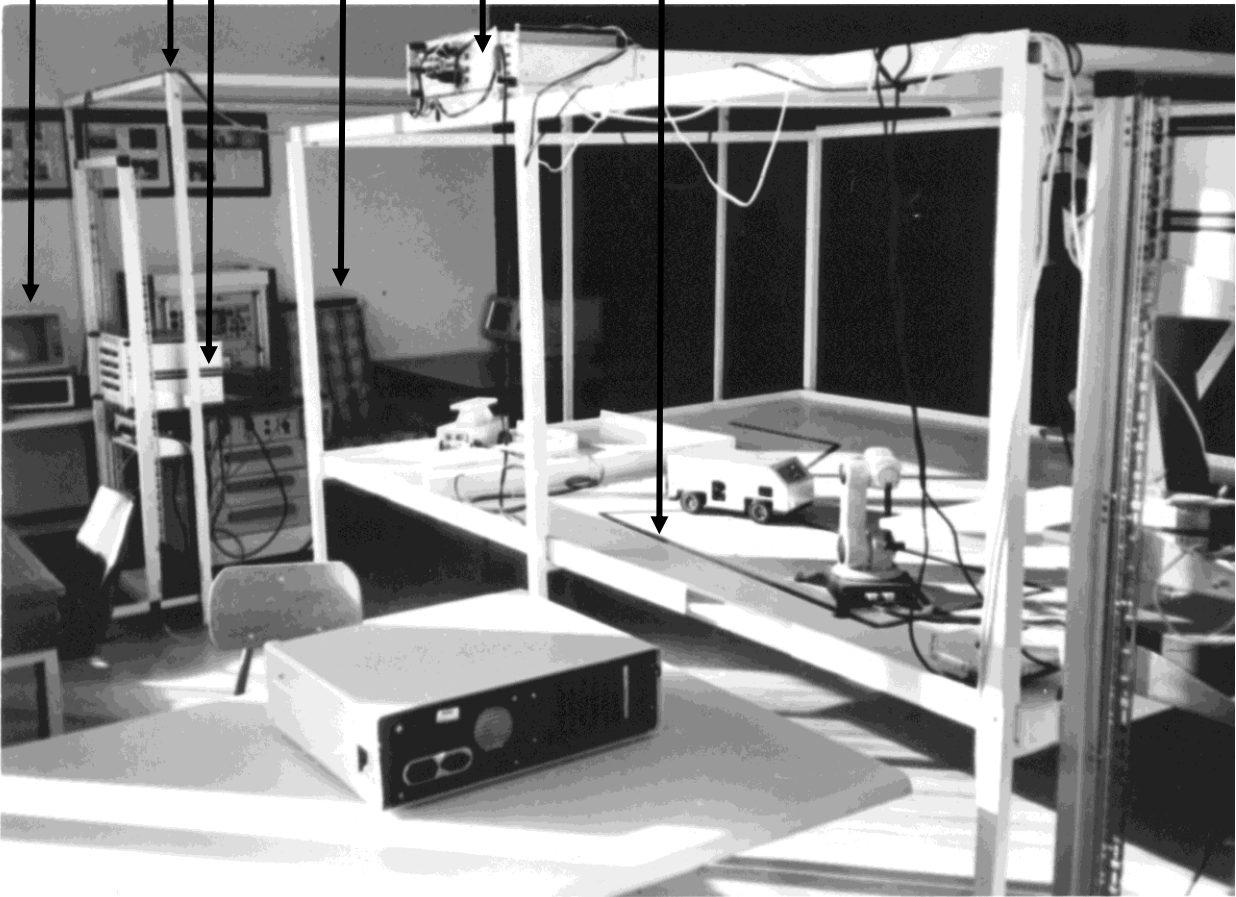
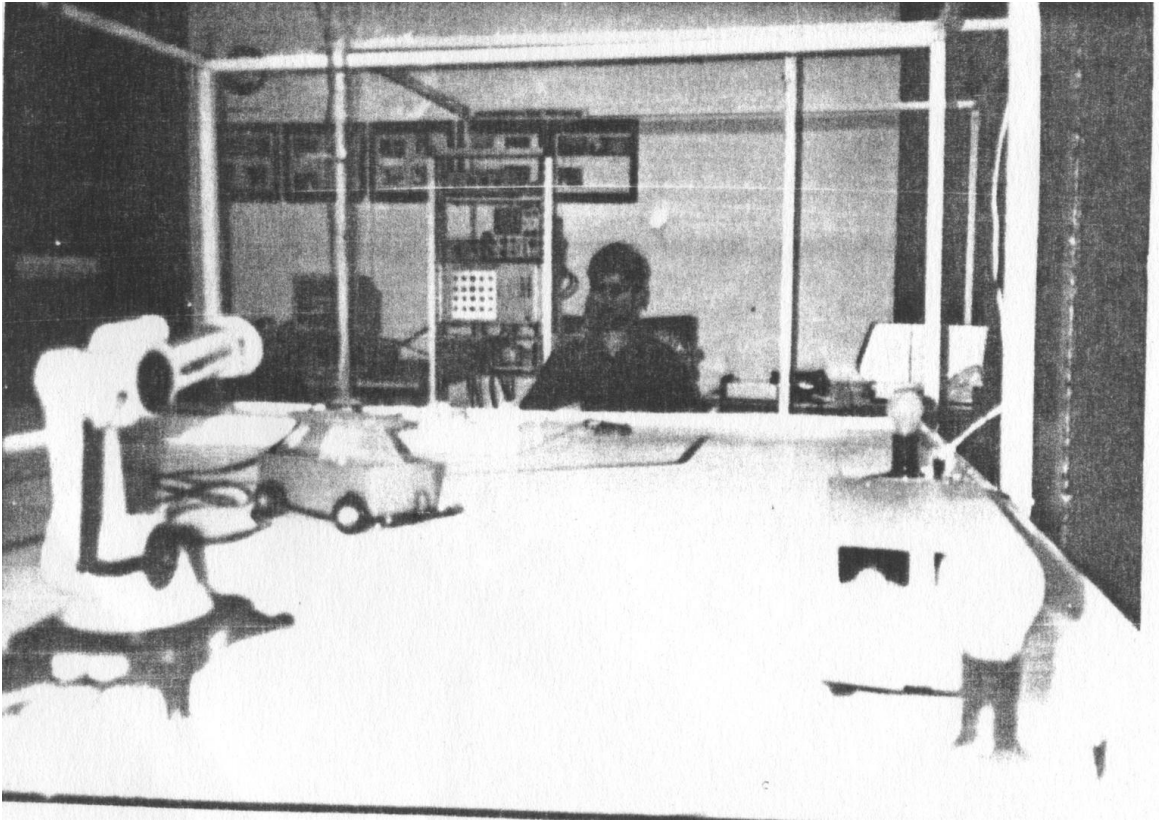


Photographs

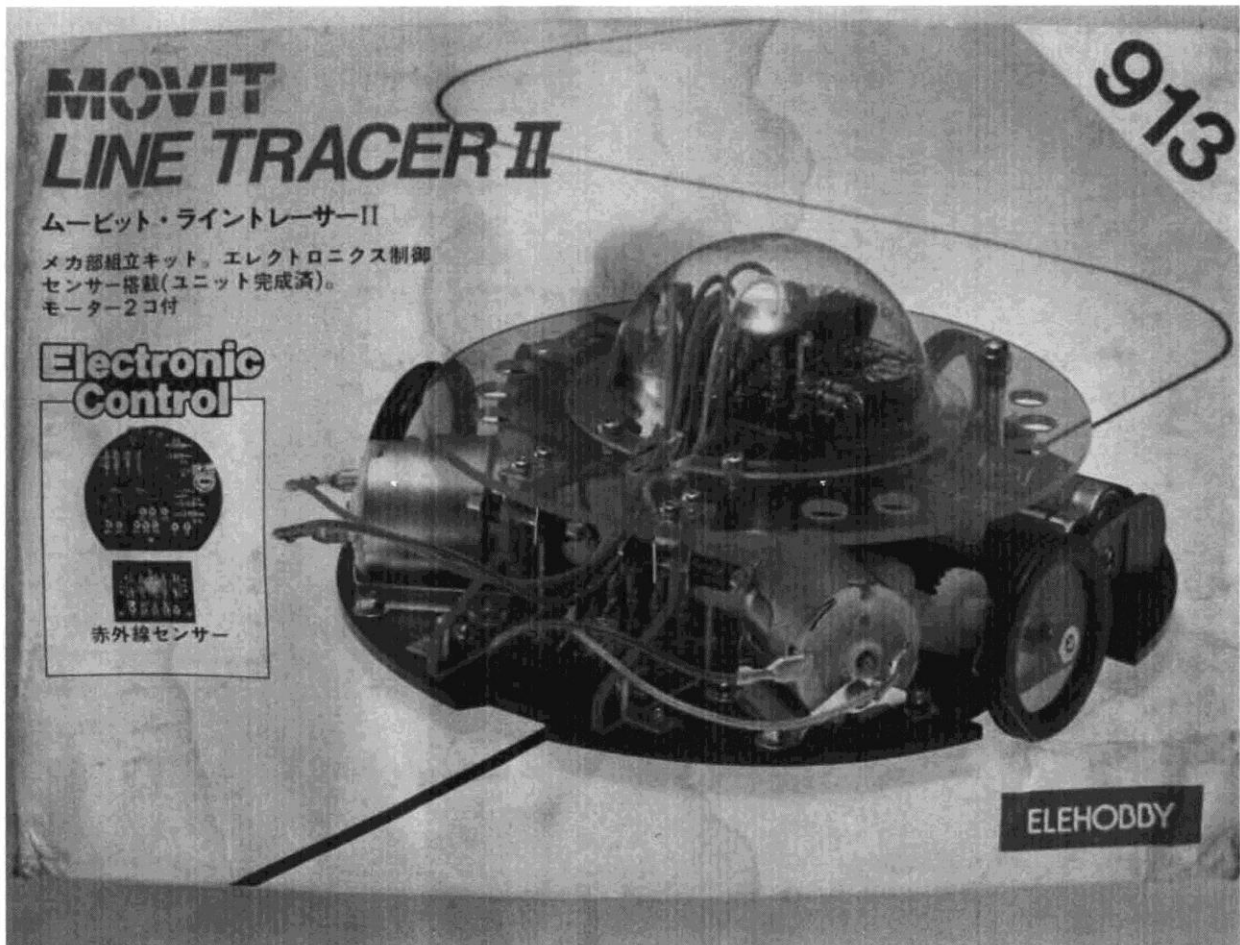
| | | | | | |
|---------------|-------------------------------------|--------------------------------|------------------------------------|--------------------------|----------------|
| 1988 PC/XT | wire: PC to (PC-to- robot) | bio- potential amplifier | chair where subject seats | PC-to-robot interface | robot arena |
|---------------|-------------------------------------|--------------------------------|------------------------------------|--------------------------|----------------|



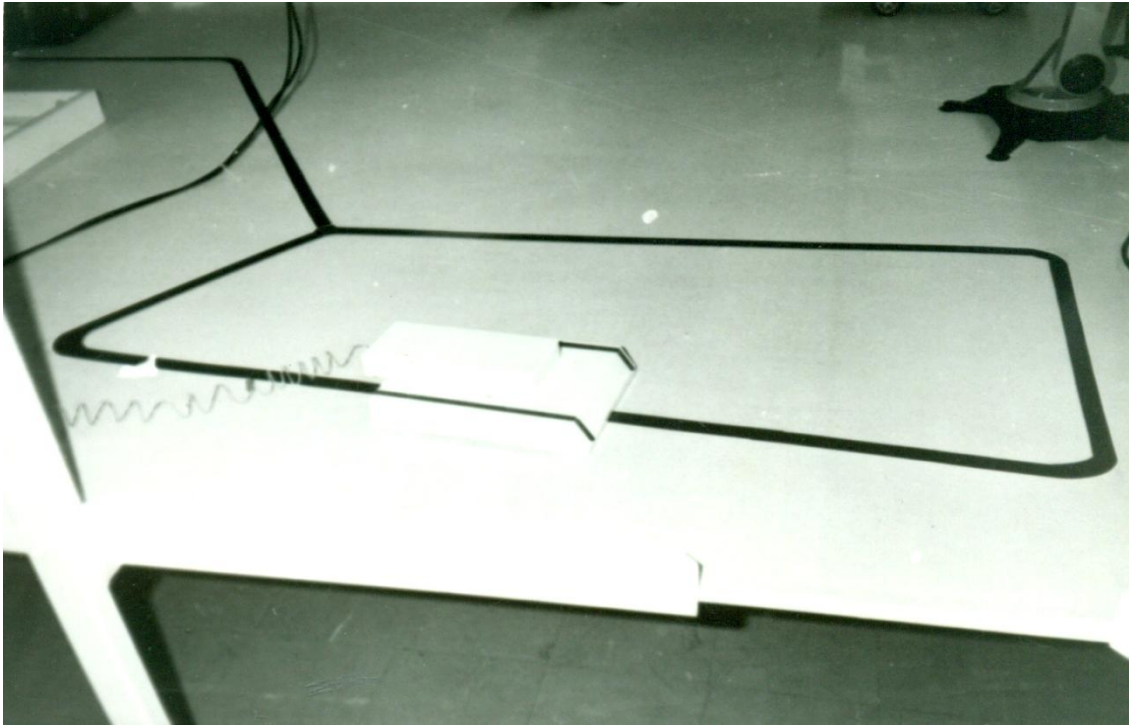
Laboratory of Intelligent Machines and Bioinformation Systems in 1988. Infrastructure built to support research in control of robots using EEG signals.



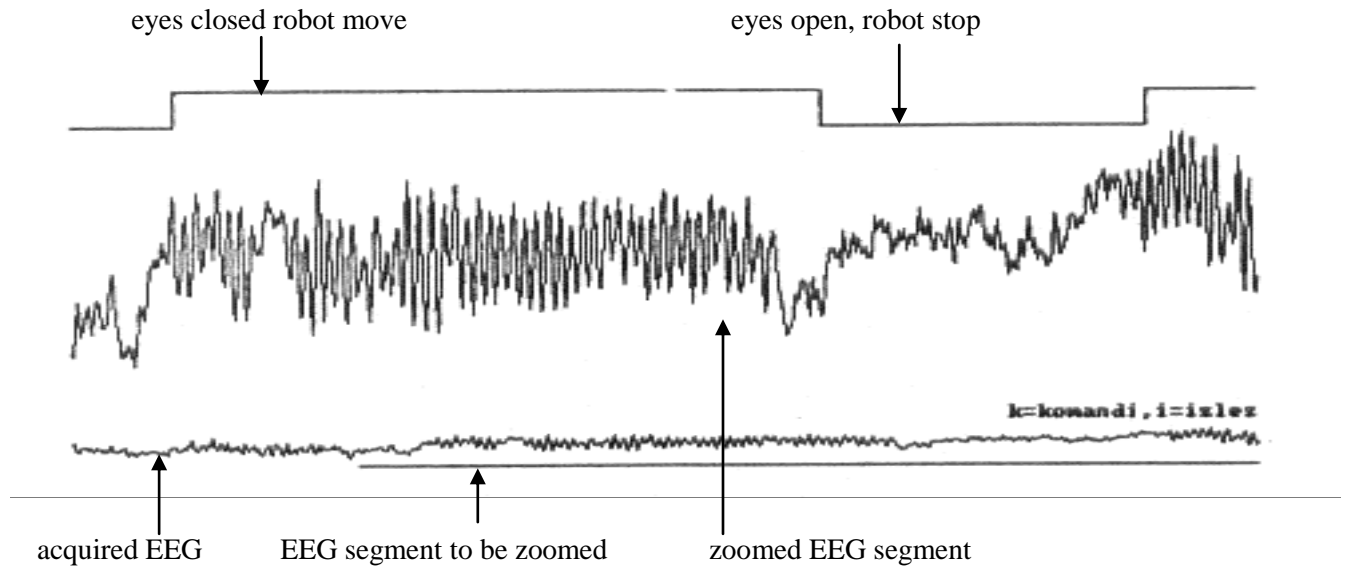
The lab, with Subject (student) seating in chair observing the controlled robot



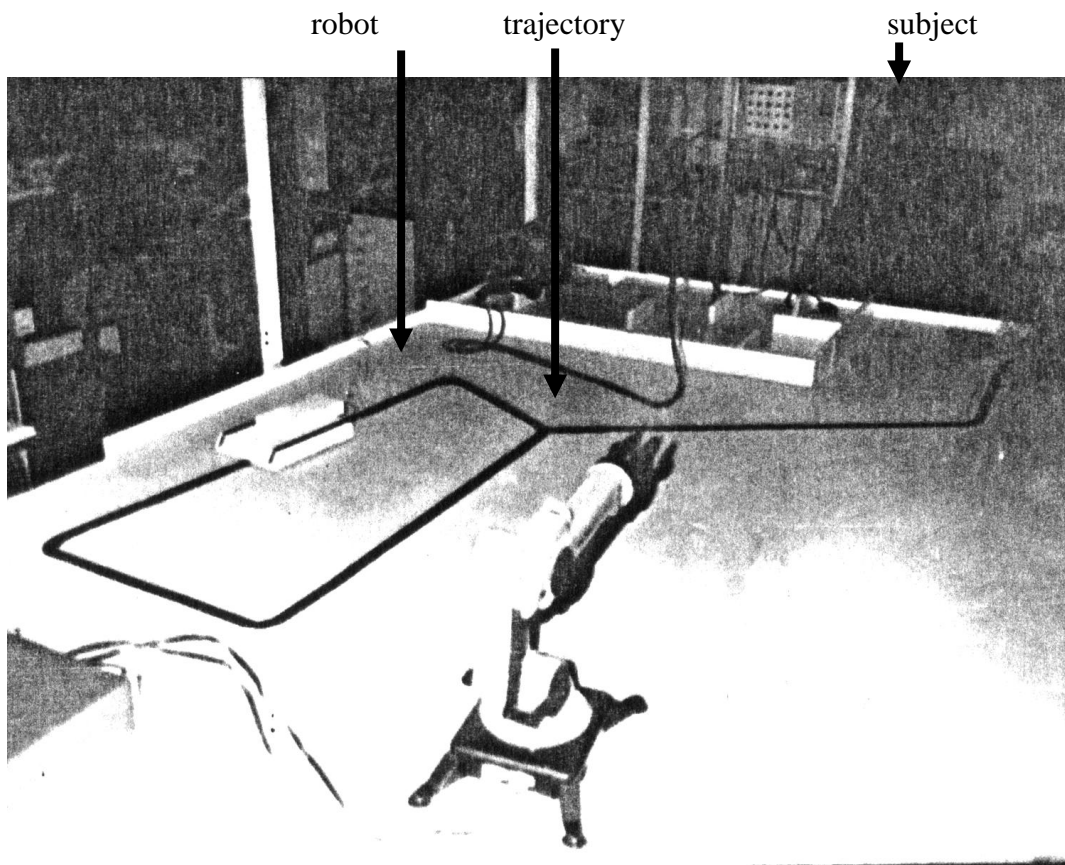
The controlled robot: Movit Line Tracer II from Elehobby.



The same robot, Movit Line Tracer II, dressed in an Flexible Manufacturing Systems outfit to play a role of an Automatic Guided Vehicle (AGV), a shuttle robot, on a factory floor. The circular (rectangular) trajectory is shown. It is also shown a tiny wire connecting the robot to the computer-to-robot interface above.



1988 signal processing for robot control on a computer screen. Bottom part of the Figure is the acquired EEG signal. Below that is the horizontal line showing which part of the EEG will be zoomed. The middle part of the screen is the zoomed EEG segment. Above it is the rectangular signal sent to the robot. The algorithm counts three times change between alpha and beta rhythm, (and vice versa) before it decides the brain changed its state so a corresponding signal is sent to the robot. .



An 1988 experiment setup. A subject using his EEG controls a robot to stop and restart moving along a predefined drawn trajectory, at particular places (stations) on the trajectory