

The main player in government coordination and management efforts in electronics is MITI. It identifies the technological fields that are to be cultivated in the national interest. It promotes and supports research and development in these areas. It facilitates industrial cooperation and coordinates various activities such as major projects aimed at overcoming serious problems facing the Japanese industry. MITI attempts to isolate and have work carried out on issues of concern to the entire industry. Examples include the projects to develop superlattice devices, three-dimensional devices and fortified ICs for use under extreme operating conditions. A further example is seen in the SIGMA System Project which is aimed at problems identified in Japan's software situation. Among Sigma's objectives - increasing the rate of standardization in software products ( from the present level of 10 per cent of the total software market) and training more software specialists.

MITI also exerts leverage through the use of soft or indirect means of guiding industrial development over the long term. It uses consensus formation to identify new directions and to bring in incremental policies with long implementation time frames. This means industry can invest safely in developments, market mechanisms can be stimulated effectively and the risk of uncertainty can be reduced. These directions and policies come about after long discussion with industry and, therefore, have industry support and commitment to action.

To complement the overall direction established, MITI directs specific initiatives in R&D (such as the Fifth Generation Computer Project and the Basic Technologies for Future Industries Project). It sets up centres and associations as part of its comprehensive effort to promote innovation, improve and increase access to government labs by industry and increase collaboration in projects between firms and between industry, universities and government.

MITI's Agency of Science and Technology (AIST) oversees the 16 research institutions and labs (including the Electrotechnical Laboratory) responsible for most of the major national research projects sponsored by government. In such programs its 2,600 researchers (with 600 engineers in microelectronics, 100 on software and 150 on devices) provide the research capacity to handle tough basic research questions and issues while universities and industry work together on R&D for technological applications using MITI's basic research. MITI is not involved in applications of technology. It presents its research results to universities and industry for their use.