

understood in Mexico, CNC equipment includes an integrated microcomputer capable of executing externally controlled designs. DNC equipment is connected to an external computer, which may directly control one machine or a network of machines. The latter configuration is known as distributed numerical control. The term NC is widely used to refer to all computer-controlled equipment.

Computer assisted manufacturing (CAM) systems include NC machine tools and related computer assisted design (CAD) and computer assisted engineering (CAE) systems. Industrial robots are also gradually being introduced into Mexican industry. The use of these technologies, however, is not nearly as advanced in Mexico as it is in Canada and the United States.

ESTIMATED INDUSTRIAL AUTOMATION MARKET SIZE, 1994

Component	US \$ millions
Computer software	40
Professional services	150
Support	80
Numerically-controlled hardware	430
Numerically-controlled machine tools	106
Total	806

Source: Interviews.

This market profile deals only with the machine tools themselves including their on-board electronics, but excluding the computers that control them. The market for associated tools, dies, moulds and other ancillary equipment is also discussed in this profile. The technology used to create computerized designs and automate the overall production process is discussed in a separate profile entitled "Industrial Automation".

Notwithstanding the trend towards computer-controlled manufacturing, there is still a substantial market in Mexico for conventional machine tools. According to U.S. Department of Commerce estimates, conventional machine tools account for up to half the total market. But the proportion of computer-controlled equipment is rising and, since there is little domestic competition, the prime export opportunities for Canadian companies are in the area of NC machine tools.

This expansion of the market for NC machine tools has created a parallel market for the professional services needed to design, implement and maintain advanced manufacturing systems. The economic crisis has increased this demand, as manufacturers strive to get the maximum productivity out of the equipment they bought in 1993 and 1994.