

Industrial automation experts interviewed for this study noted that labour is relatively inexpensive in Mexico, and that it is usually cheaper to hire extra engineers and designers than to implement a fully-integrated CAD/CAM process. But, they add that other benefits of AMT, including quality control, increased flexibility and more flexible production runs, are driving an increased demand for this type of product. Also, many producers have been forced to acquire advanced technology in order to integrate their operations with those of foreign partners or customers.

Notwithstanding the economic crisis and capital shortage, the Mexican industrial automation market provides good opportunities for Canadian companies, particularly those that specialize in systems integration. The strongest need is for technologies that can increase productivity while taking maximum advantage of existing facilities. Opportunities for more advanced, fully-integrated systems exist, but are likely to develop fully only in the longer term.

GLOSSARY

The terminology used in the advanced manufacturing technology sector is very specialized. In addition, the terminology differs somewhat between Canada and Mexico. In general, Mexican industrial automation concepts are not as advanced as the equivalent AMT approaches in Canada. Canadian suppliers should be familiar with the Mexican usage of these terms. Because they are understood in Mexico, the following terms are used in this report.

CAD	Computer aided design	CAD is used to design parts and machine tools in the form of wireframe, surface and solid models. Cost considerations generally dictate the wireframe approach.
CAM	Computer aided manufacturing	CAM is usually understood to describe the manufacturing side of the CAD/CAM cycle. It involves programming numerically controlled machine tools. Some systems used in Mexico present an animation of tool motions to check tool paths.
CAE	Computer aided engineering	CAE technology in Mexico consists of software tools for analyzing the manufacturing process, especially the behaviour of materials and machine tools.
DNC	Direct numerical control	Computer control of machine tools.
CIM	Computer integrated manufacturing	A manufacturing model that stresses linkages between automation systems throughout the manufacturing process. Systems that follow the CIM model link plant operations including design, engineering and manufacturing processes, as well as inventory control.
MRP	Material resource planning	Integrated systems to manage materials and inventories involved in a manufacturing process.
ERP	Enterprise resource planning	Integrated planning applied throughout the enterprise, including human resources as well as distribution.